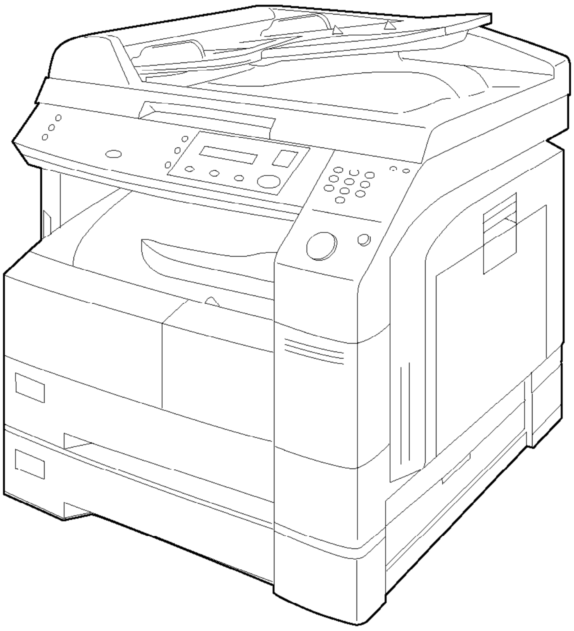
Order Number: MGCS011201C0
H21 (H22 for USA)

Service Manual

Digital Imaging Systems

DP-1510P / 1810P / 1810F / 2010E



⚠ WARNING

This service information is designed for experienced repair technicians only and is not intended for use by the general public.
It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt within this service information by anyone else could result in serious injury or death.

IMPORTANT SAFETY NOTICE

There are special components used in this equipment which are important for safety. These parts are marked by ⚠ in the Schematic Diagrams, Circuit Board Diagrams, Exploded Views and Replacement Parts List. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire or other hazards. Do not modify the original design without permission of manufacturer.

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1 Specifications Table

Note:
DP-1510P/2010E model is limited to certain destinations only.

1.1. Copy Function

Items	Description				Remarks
	DP-1510P	DP-1810P	DP-1810F	DP-2010E	
Basic Specifications					
1 Type	Desktop				
2 Platen	Fixed				
3 Original Position	Left / Inner				
4 Recording Paper Path	Center				
5 Face Up / Face Down	Face Down				
6 Drum	Organic Photo Conductor (OPC)				
7 Copy Process	Dry Electrostatic System				
8 Developing Process	Magnetic Mono Component Development System				
9 Toner Recycle	No				
10 Fusing System	Heat & Pressure				
11 Max Original Size	Ledger (11 x 17 in) / A3 (297 x 420 mm)				
12 Paper Size					
Paper Tray	LDR, LGL, LTR, LTR-R, INV-R				For USA and Canada
	A3, B4, A4, A4-R, A5-R, FLS				For EU
	A3, B4, A4, A4-R, B5, B5-R				For Other Destinations
Sheet Bypass	LDR, LGL, LTR, LTR-R, INV-R				For USA and Canada
	A3, B4, A4, A4-R, A5-R, FLS				For EU
	A3, B4, A4, A4-R, B5, B5-R				For Other Destinations
Sheet Bypass Envelope	No				
13 Warm-up Time	Approx. 30 sec.				68 °F (20 °C)
14 First Copy Time	6.5 sec.				From Platen/ Letter/ A4 Portrait/ 1st Paper Tray. Period between Start Key is pressed and Paper exit.
15 Copy Speed					
Ledger / A3	10 cpm				
Legal / B4, FLS	11 cpm				
Letter-R / A4-R	13 cpm				
LTR / A4	15 cpm	18 cpm		20 cpm	
Invoice / A5	15 cpm	18 cpm		20 cpm	
16 Zoom					
Enlargement	Selected Original Size / Copy Size				
Reduction	Selected Original Size / Copy Size				
Zoom	50 - 200%				1% Step
X-Y Zoom	No				

Items				Description				Remarks
				DP-1510P	DP-1810P	DP-1810F	DP-2010E	
17	Paper Feed			Front Loading Universal Paper Tray				
		Paper Tray						
			Capacity	550 sheets x 1 (DP-2010E-PU: 550 sheets x 2)				LTR / A4 : 20 lb (75 g/m^2)
			Auto Size Setting	No (Input from Control Panel)				
			Low Paper Warning	Empty Only				
		Sheet Bypass						
			Capacity	50 sheets				LTR / A4 : 20 lb (75 g/m^2)
			Auto Size Setting	Yes				
		Paper Capacity (Std. Configuration)		600 sheets				Paper Tray + Sheet Bypass
18	Multi Copy Range			1 - 999 sets				
19	Gradation							
		Text		2-steps				
		Text / Photo		2-steps Error Diffusion				
		Photo		256-steps				
20	Resolution			600 dpi				Scanning and Printing.
21	Standard Sorting Memory Size			No	8 MB			
22	Standard Page Memory Size			16 MB				
23	Exit Tray Capacity			Standard: 250 sheets				
24	Color			No				
25	Max Power Consumption			Less than 1.2 kW				
26	Dimensions							
		(W x D x H)		23.1 x 23.8 x 16.1 in (588 x 605 x 410 mm)			23.1 x 23.8 x 20.7 in (588 x 605 x 526 mm)	H: To Platen Glass. For USA and Canada
				23.1 x 23.8 x 16.1 in (588 x 605 x 410 mm)				For Other Destinations
		(W x D x H)		23.1 x 23.8 x 18.0 in (588 x 605 x 458 mm)		23.1 x 23.8 x 20.6 in (588 x 605 x 522 mm)	23.1 x 23.8 x 22.6 in (588 x 605 x 573 mm)	H: Up to i-ADF. For USA and Canada
				23.1 x 23.8 x 18.0 in (588 x 605 x 458 mm)			23.1 x 23.8 x 20.6 in (588 x 605 x 522 mm)	For Other Destinations
27	Projection Area			Less than 3.85 ft / 0.358 m				
28	Occupancy Area							
		(W x D)		33.8 x 23.8 in (858 x 605 mm)				Includes Sheet Bypass.

Items	Description				Remarks
	DP-1510P	DP-1810P	DP-1810F	DP-2010E	
29 Weight	91 lb (41 kg)		99 lb (45 kg)	113 lb (51kg)	Main Unit only. For USA and Canada
	91 lb (41 kg)		99 lb (45 kg)	93 lb (42 kg)	For Other Destinations
Options					
1 Paper Feed System	Max. 550 sheets x 2		Max. 550 sheets x 4		
550 sheets 2nd/4th Paper Feed Module	Yes*		Yes		Motor is Not Mounted. *2nd Only
550 sheets 3rd Paper Feed Module	No		Yes		
Paper Size Detection	Manual (Control Panel)				
Low Paper Warning	Empty Only				
Max. Paper Capacity	1,150 sheets		2,250 sheets		LTR / A4 : 20 lb (75 g/m^2)
2 Cabinet					
Stand for 2-Paper Tray Configuration	Option				Depends on the Local Sales Company.
Stand for 1-Paper Tray Configuration	Option				
3 Platen Cover	Yes		No	Yes	
Free Stop	Yes		-	Yes	From 30 to 70 degrees.
4 ADF					
Single Side Type	Yes		Standard	Yes	
Original Set	Face Up				
Scanning Method	Sheet Through				
Capacity (Original)	50 sheets				LTR / A4 : 20 lb (75 g/m^2)
SADF Mode	No				
Free Stop	Yes				From 30 to 70 degrees.
5 Inverting ADF (i-ADF)					
Duplex Type	No			Yes	
Original Set	-			Face Up	
Scanning Method	-			Sheet Through	
Capacity (Original)	-			50 sheets	LTR / A4 : 20 lb (75 g/m^2)
SADF Mode	-			No	
Free Stop	-			Yes	From 30 to 70 degrees.
6 Exit Tray (Inner)	Yes				
Tray Position	Inner				
Number	1				
Face Up / Face Down	Face Down				
Bin Capacity	250 sheets				
Multi Tray Function	No				
Shift Tray Function	No				
7 Finisher	No				
8 Exit Tray (Outer)	No				
9 Dual-Path Exit Guide Unit	No				

Items	Description				Remarks
	DP-1510P	DP-1810P	DP-1810F	DP-2010E	
10 Paper Transport Unit	No				
11 Automatic Duplex Unit	No			Yes	
12 Counter					
Key Counter Capability	No				Only the Harness Kit is supplied as an option kit.
13 Dehumidifier	Option				Supplied as a Service Part.
14 Electronic Sorting Board	No	Standard (8 MB)			For DP-1810P: CODEC + 8MB memory
Optional Image Memory 1 (8 MB)	Yes				Only one of two available types can be installed.
Optional Image Memory 2 (16 MB)	Yes				
Optional Image Memory 3 (64 MB)	Yes				
Optional Image Memory 4 (128 MB)	Yes				
Features					
1 Automatic Features					
Auto Magnification Selection	No (ADF: Yes)				
Auto Paper Selection	No (ADF: Yes)				
Auto Density Control	Yes				
Auto Paper Tray Selection	Yes				
Auto Start	Yes				Reservation while Power On Initial.
Energy Saver Mode					
Standby Mode	Yes				
Energy Saver Mode	Yes				
Sleep Mode	Yes				Turns Off the Heater Power.
Power Consumption During Sleep Mode	Approx. 1.5 wh				100 VAC Power Supply
	Approx. 2.2 wh				200 VAC Power Supply
Remote Diagnostic	No				
Machine Stop While Out of Toner	Yes (PPC Function)				
2 Additional Features					
Low Paper Warning	Empty Only				
Photo Mode	Yes				256 steps, Multi-level
Original Detection Release	No				
Edit / Effects					
Book Mode	Yes				
Edge Mode	Yes				
Margin Mode	Yes				
Page Numbering	No				
Inverse Mode (Negative / Positive)	No				

Items	Description				Remarks
	DP-1510P	DP-1810P	DP-1810F	DP-2010E	
Centering Mode	No				
Mirror Mode	No				
Image Overlay Mode	No				
Others (Inverting ADF & ADU)	No			Yes	
2-Page Copy Mode	Yes				LDR → LTR x 2 (A3 → A4 x 2, B4 → B5 x 2)
2 in 1	Yes				
1→2	No				
4 in 1	No				
1→4	No				
Booklet Mode	No				Copy from 4 single-sided pages to 1 booklet mode sheet.
Duplex Copy					
1→2	No			Yes	
2→1	No			Yes*	With i-ADF option.
2→2	No			Yes*	
Book→2					
Book Format	No			Yes*	
Facing Pages	No			Yes*	
Image Rotation (90 Degrees)	Yes				
Electronic Sorting	No	Yes			
Rotation Sorting	No	Yes*			Sheet Bypass or Optional Tray.
Insertion Job					
Cover Mode	No				
Page Insertion Mode	No				
OHP Interleave Mode	No				
Presentation Mode	No				
Department Counter	Yes				50 Departments
ADF (Optional)					
Multi Size Feed	No				
SADF Mode	No				
Original Counter	No				
Job Memory	Yes (2)				
Job Time Display	No				
Concurrent Copy	Yes*				Can Reserve when printing PC data. Can NOT Reserve next copy while printing Copy data.
Function Mode	Yes				
Interrupt	Yes				
Electrical Counter	Yes				
Skyshot Mode	Yes				

Items	Description				Remarks
	DP-1510P	DP-1810P	DP-1810F	DP-2010E	
Check / Slip Mode	No				
Copy Account Display Mode	No				
3 Control Panel					
Display	20 x 2 Alphanumeric LCD				
Status Lamp	No		Yes	No	
Key					
Original Size	Yes				
Copy Size	Yes				
Keypad	Yes				
Clear	Yes				
Stop	Yes				
Start	Yes				
Energy Saver	Yes				
Multi Size Feed	No				Same widths only.
Sort	No	Yes			
Finish	No				
Function	Yes				
Original Detection Release	No				
Interrupt	Yes				
Reset	Yes				
One-Touch Key	No		Yes	No	
Mode Change	Yes				
LCD Main Indication					
Message Language (Default)	English				For USA and Canada
	Specified Language				For EU and Other Destinations
Message Languages Available	3 - 4				
Original Size / Image Indication	Yes (Without Image)				
Paper Size / Image Indication	Yes (Without Image)				
Paper Tray Selection	Yes				
Selected Paper Tray / Tray Status	Yes				
Original Mode Selection	No (LED Indication only)				Text / Text-Photo / Photo
Copy Density Selection	No (LED Indication only)				5 Steps
Setting Confirmation	No				
Zoom Magnification	Yes				
Function Classification	No				
Number of Copies	Yes				
SADF / Multi Size Feed Mode	No				

Items	Description				Remarks
	DP-1510P	DP-1810P	DP-1810F	DP-2010E	
Error Code	Yes				
Finishing	No				
Warning Indicators					
Add Toner	No (LED Indication only)				
Toner Waste Container Full	Yes				
Add Paper (No Paper)	No (LED Indication only)				
Add Paper	Yes				
Paper Jam Indication	No (LED Indication only)				
Paper Jam Location	No (LED Indication only)				
Service Alert Call	Yes				
User Error	Yes				
Machine Error	Yes				
History of Jam Errors	No				
Number of Jam Errors History	No				
4 Main Unit					
Total Counter	No				Electrical Counter
Max. Weight of Documents on the Platen Glass	11 lb (5 kg)				
ADF with Document Guide	Option		Standard	Option	
Clip Pocket	No				
Operating Instructions Pocket	No				
Warning / Caution Label	Specified Language				
5 Optical System					
Original Detection Method	No				
Original Detection Size	LDR, LGL, LTR, LTR-R, INV, INV-R				For USA and Canada
	A3, B4 (FLS), A4, A4-R, A5, A5-R				For EU, Other Destinations
Scanning Method	600 dpi CCD				
Dehumidifier	No				Supplied as a Service Part
Mechanical Multi Copy Mode	No				
6 Process System					
Type	Separate OPC Unit / Toner Unit Type				
Toner					
Toner Yield	10,000 Pages / Toner Bottle				LTR / A4 6% Image
Low Toner Level Sensor	Yes				
Drum Life	45,000 Pages				Printing 2 pages interval

Items	Description				Remarks
	DP-1510P	DP-1810P	DP-1810F	DP-2010E	
Developer Life	N/A				
Toner Waste Container	Yes				
Dehumidifier	Yes				Supplied as a Service Part
Manual Add Toner	No				Toner Bottle replacement
7 Feeder System					
Paper Tray (Standard / Option)					
Paper Size Setting Method	Universal & Fixed by Screw				
Change Paper Size Method	Set by Control Panel				
Setting Size	LDR, LGL, LTR, LTR-R, INV-R				For USA and Canada
	A3, B4, A4, A4-R, A5-R, 8 x 13 in, 8.5 x 13 in				For EU
	A3, B4, A4, A4-R, B5, B5-R				For Other Destinations
Capacity	550 sheets				LTR / A4 : 20 lb (75 g/m^2)
Low Paper Warning	Empty Only				
Sheet Bypass					
Capacity	50 sheets				LTR / A4 : 20 lb (75 g/m^2)
Paper Size Setting Method	Universal				
Change Paper Size Method	Auto				
Paper Size Detection	LDR, LGL, LTR, LTR-R, INV-R				For USA and Canada
	A3, B4, A4, A4-R, A5-R, 8 x 13 in, 8.5 x 13 in				For EU
	A3, B4, A4, A4-R, B5, B5-R				For Other Destinations
Efficiency					
1 Productivity					
Warm-Up Time from Stand-by	Approx. 30 sec.				68 °F (20 °C)
ADF Productivity (LTR / A4)					
ADF	100%				
Inverting ADF	-			100%	
ADU Copy Productivity (LTR / A4)	-				
Transport Method	-			Stackless	
1→2					
1 copy	-			50%	
5 copies	-			72%	
10 copies	-			80%	
2→2					
1 copy	-			45%	
5 copies	-			70%	
10 copies	-			78%	

Items	Description				Remarks
	DP-1510P	DP-1810P	DP-1810F	DP-2010E	
PM Cycle					
1 Major PM	120 k				
2 Minor PM (Cleaning)	60 k				
Packing Configuration					
1 Packing Dimension	28.9 x 30.1 x 23.4 in (735 x 765 x 595 mm)		28.9 x 30.1 x 25.6 in (735 x 765 x 650 mm)	28.9 x 30.1 x 31.9 in (735 x 765 x 810 mm)	Main Unit only. For USA and Canada
	28.9 x 30.1 x 23.4 in (735 x 765 x 595 mm)		28.9 x 30.1 x 25.6 in (735 x 765 x 650 mm)	28.9 x 30.1 x 23.4 in (735 x 765 x 595 mm)	For Other Destinations
2 Packing Weight	103.6 lb (47 kg)		112.4 lb (51 kg)	132.3 lb (60 kg)	Main Unit only. For USA and Canada
	103.6 lb (47 kg)		112.4 lb (51 kg)	105.8 lb (48 kg)	For Other Destinations
3 Accessories					
OPC Unit	Yes				
Toner Hopper Unit	No				
Operating Instructions	Yes				
Power Supply					
1 Power Requirement	99 - 138 VAC, 47 - 63 Hz Single Phase				100 VAC Power Supply
	180 - 264 VAC, 47 - 63 Hz Single Phase				220 VAC Power Supply
2 Power Consumption	Less than 1.2 kW				
Ambient Conditions					
1 Temperature	50 - 86 °F (10 - 30 °C)				
2 Relative Humidity	30 - 80%				
3 Safety	UL1950 / CSA C22.2 No. 950				For USA and Canada
	EN60950				For EU and Other Destinations
4 Energy Saver	Energy Star Compliant				
5 EMI	Class A Computing Device in FCC Rules Part 15				

1.2. Fax, Printer and Internet Fax Functions

1.2.1. Fax Function

Note:
DP-1810F model only.

Items	Description	Remarks
	DP-1810F	
Main Specifications		
1 Compatibility	G3	ITU-T Std & Non-Std (MGCS)
2 PSTN Line Port	Yes (1)	
3 Leased Line Port	No	
4 V.24 Line Port	No	
5 Modem Speed	33.6 - 2.4kbps	
6 Coding Scheme	JBIG/MMR/MR/MH	
7 ECM	Yes	Conforms to ITU-T
8 Short Protocol	Yes (B, D)	
9 Transmission Speed	Approx. 3 sec.	ITU-T Image No. 1 (A4, Std Resolution)
10 Communication Resolution (pels/mm x lines/mm)	**Transmission** Std 8 x 3.85 Fine 8 x 7.7 S-Fine 8 x 15.4 16 x 15.4 **Reception** Std 8 x 3.85 Fine 8 x 7.7 S-Fine 8 x 15.4 16 x 15.4	
Scanner Mechanism		
1 Scanning Device	CCD (ADF / Platen)	
2 Scanning Speed		
3 S-Fine :F16 x 15.4	Less than 2.0 sec.	A4 vertical direction
	Less than 1.4 sec.	A4 horizontal direction
4 Fine :F8 x 7.7	Less than 1.0 sec.	A4 vertical direction
	Less than 0.7 sec.	A4 horizontal direction
5 Std :F8 x 3.85	Less than 1.0 sec.	A4 vertical direction
	Less than 0.7 sec.	A4 horizontal direction
6 Scanning Resolution (pel/mm x lines/mm)	Std 8 x 3.85 Fine 8 x 7.7 S-Fine 8 x 15.4 16 x 15.4	
7 Document Size (Max.)	ADF: Max. A3	
8 Effective Scanning Width	LDR (11.5") / A3 (292 mm)	
9 A3 size TX/RX	Yes	Conforms to ITU-T A3
10 Reduction XMT	Yes	A3 to B4 / A3 to A4 / B4 to A4
11 ADF Capacity	50 sheets	Face-Up, feed from top page LTR / A4 (17 lb / 64 g/m2)
12 Collation Stack	Yes (Face Down)	

Items		Description	Remarks
		DP-1810F	
Printer Mechanism			
1	Recording Method	LP	
2	Recording Speed	18 ppm (A4 horizontal)	
3	Recording Resolution Fax	406 x 391 dpi	
4	Recording Paper Size	Ledger / Legal / Letter / A3 / B4 / A4 / A5 / INV-R	Ledger size is transmitted as A3 size for N. American model. If A3 is received, approx. 1" of image on both edges are not printed on Ledger size paper.
5	Effective Printing Width	11.4" (289 mm)	Conforms to ITU-T A3
6	Recording Paper Capacity	550 sheets	Optional max. 2200 sheets LTR / A4 : 20 lb (75 g/m2)
7	Collation Stack	Yes (Face Down)	
8	Consumable	Toner Cartridge / OPC Drum	
Fax Memory			
1	Standard Memory	2 MB (120 pages)	Flash ROM, ITU-T Image No.1 (A4, Std Resolution)
2	ITU-T #1/standard result		
3	Optional Memory	2 MB, 4 MB, 8 MB	
Dual Operation			
1	Multi Task Operation	Yes	
2	Direct XMT Reserve	Yes	
3	Memory XMT Reserve	Yes	
4	Number of Memory Job Files	Yes (Max. 50 files)	
Dialing/Telephone Features			
1	Auto Dialers	160	
2	Phone Book Directory Search Dialing	Yes	
3	Total Auto Dialers	160	
4	Program Dials	8	
5	Max. Tel Number Digits	36	
6	Max. Station Name Characters	15	
7	Full Number Dialing (Buffered Dialing)	Yes	Max.30 stations
8	Direct Dialing (Monitor Dialing)	Yes	Voice mode
9	Automatic Redialing	Yes	
10	Manual Redialing	Yes	
11	Line Monitor Speaker	Yes	
12	Chain Dialing (Hybrid Dial)	Yes	In Monitor Dialing mode only
13	Pulse / Tone Dialing	Yes	10 pps / DTMF

Items	Description	Remarks
	DP-1810F	
14 Pulse to Tone Change	Yes	
15 Flash Key	Yes	
16 Handset	Option	
Transmission Features		
1 Direct Transmission	Yes	
2 Memory Transmission	Yes	Page Retransmission
3 Quick Memory Transmission	Yes	
4 Multi-Station Transmission (Sequential Broadcasting)	Yes	Max. 190 stations
5 Direct Deferred Transmission	No	ADF Deferred Transmission
6 Deferred Transmission	Yes	Max. 50 timers
7 Deferred Multi-Station Transmission	Yes	
8 Priority Direct Transmission	Yes	Priority ADF Transmission
9 Priority Memory Transmission	No	
10 Batch Transmission	Yes	Real Time (up to 5 Files)
11 90 Degree Rotation Transmission	Yes	
12 Cover Sheet	No	
13 Confidential Mail Box	Yes	20 Mailboxes
14 Multi-Copy Transmission	No	
15 Memory Back-Up	Yes	FAX : Back-up with Flash Memory. Copy / Printer : No Back-up with D-RAM
16 Duplex Scanning	No	
Reception Features		
1 Substitute Reception	Yes	
2 Fixed Reduction	Yes	LTR/A4/LGL: 70 - 100% (in 1% Steps), Top & Left Alignment
3 Auto Reduction	Yes	LTR/A4/LGL: 70 - 100% (in 1% Steps), Top & Left Alignment
4 Overlap Printing	Yes	Page End Approx. 0.51 in (13 mm)
5 Receive to Memory	Yes	
6 Distinctive Ring Detector (DRD)	Yes	
7 90 Degree Rotation Reception	Yes	
8 Duplex Printing	No	

Items	Description	Remarks
	DP-1810F	
Polling		
1 Polling	Yes	
2 Turnaround Polling	No	
3 Multi-Station Polling	Yes	Max. 190 stations
4 Deferred Polling	Yes	Max. 50 timers
5 Deferred Multi-Station Polling	Yes	Max. 50 timers / 190 stations
6 Direct Polling Tx	No	
7 Memory Polling Tx	Yes	1 File
8 Preset Polling Password	Yes	
9 Temporary Polling Password	Yes	
10 Continuous Polling	Yes	
Convenience		
1 Panel Display	20 x 2 Alphanumeric LCD	
2 Voice Contact	No	
3 Edit File Mode	Yes	With View Mode
4 Incomplete File Save	Yes	With View Mode
5 Automatic Cover Sheet	No	
Certainty		
1 Verification Stamp	Yes	
2 Header / Total Page Print	Yes	
3 Transaction Journal	Yes	100 Transactions / with View Mode
4 Comm. Journal	Yes	With Image Data
5 Last Ind. XMT Journal	Yes	
List Printouts		
1 One-Touch List	Yes	
2 ABBR. No. List	Yes	
3 Program List	Yes	
4 Phone Book Search List	Yes	Auto Dialer List
5 Fax Parameter List	Yes	
6 File List	Yes	With View Mode
7 Ind. XMT Journal	Yes	
8 Directory Label	Yes	
Identifications		
1 Logo	Yes	25 Characters
2 Multiple Logo	No	
3 Character ID	Yes	16 Characters
4 Numeric ID	Yes	20 Digits

Items	Description	Remarks
	DP-1810F	
Special Communications		
1 Password XMT / RCV	Yes	
2 Selective Reception	No	TSI Check
3 Relay XMT Request	No	
4 Relay XMT Center	No	
5 Confidential XMT / Polling	No	
6 Confidential Center	No	
7 Mailbox XMT / Polling	Yes	
8 Mailbox Center	Yes	Max. 20 Mailboxes
9 File XMT	No	
10 Fax Forward	No	Received File Transfer
11 Sub-Address XMT	Yes	T. Routing
12 Sub-address RCV	Yes	
13 OMR-XMT	No	
Standards		
1 PSTN	FCC Part 68: 1997 / Industry Canada No. CS-03: Issue 8 1996	
Others		
1 Fax Access Code	Yes	
2 PIN Code Access	Yes	For USA and Canada only
3 Intelligent Redial (A-1)	Yes	5 Files
4 Department Code	Yes	50 Codes
5 Power Saver Mode	Yes	
6 Self Diagnostic Function	Yes	
7 Remote Diagnostic Function	Yes	
8 Check & Call Function	Yes	
9 V.24 / Encryption Interface	No	

1.2.2. Printer Function

Items	Description				Remarks
	DP-1510P	DP-1810P	DP-1810F	DP-2010E	
Interface					
1 Centronics Parallel I/F (IEEE-1284)	Centronics Parallel Interface				ECP
2 LAN (Network)	Ethernet 10Base-T/ 100Base-TX				Requires the Optional Internet Fax Kit.
3 USB Port	No				
4 IEEE-1394	No				
Printer Function					
1 Printing Size	LDR, LGL, LTR, LTR-R, INV, A3, A4, A4-R, A5, A5-R, B4				
2 Sheet Bypass	Yes				
3 Stapling	No				
4 Printing Resolution	600 dpi				
5 Interface	Centronics Parallel Interface/Ethernet				
6 OS	Win 98 / Me / Win NT 4.0 / Win 2000 / XP				
7 GDI	Yes				JBIG Coding
8 PDL (PCL6)	Yes				Requires Optional PCL6 Emulation Kit.
9 PDL (PSII)	No				
10 Duplex Printing	No			Yes	
11 Collation Stack	Yes				Printer Driver Setting
12 Status Monitor	Yes				Win 95 / 98 / Me / Win NT 4.0 / Win 2000: Local Connection
13 Network Printing	Yes				Requires the Optional Internet Fax Kit.
14 Network Status Monitor	No				
15 Smoothing	No				
16 Applicable PC	IBM PC, AT or Compatible				
17 Multi-Task Operation					
Printing while Fax-XMT from Memory	Yes				
Printing while Fax-RCV into Memory	Yes				
Fax-XMT from Memory while Printing	Yes				
Fax-RCV into Memory while Printing	Yes				
18 Output to Separate Tray for Printing, Fax, Copy	No				
19 Font	Yes				Requires Optional PCL6 Emulation Kit.
20 Security Print	No				

Items	**Description**				**Remarks**
	DP-1510P	**DP-1810P**	**DP-1810F**	**DP-2010E**	
Scanning Function					
1 Halftone	256 Halftone Shades, Gray Scale (Local Connection)				LAN : 256 Halftone Shades with Error Diffusion. Requires the Optional Internet Fax Kit.
2 Max. Document Size	Ledger, A3				
3 Scanning Resolution	600 dpi (Max) 150 dpi (Gray Scale Max)				Selectable, 600 dpi Optical Scanner, LAN: 400 dpi (Max.)
4 Driver	TWAIN				
5 2-Sided Scanning	No			Yes*	With i-ADF option.

1.2.3. Internet Fax Function

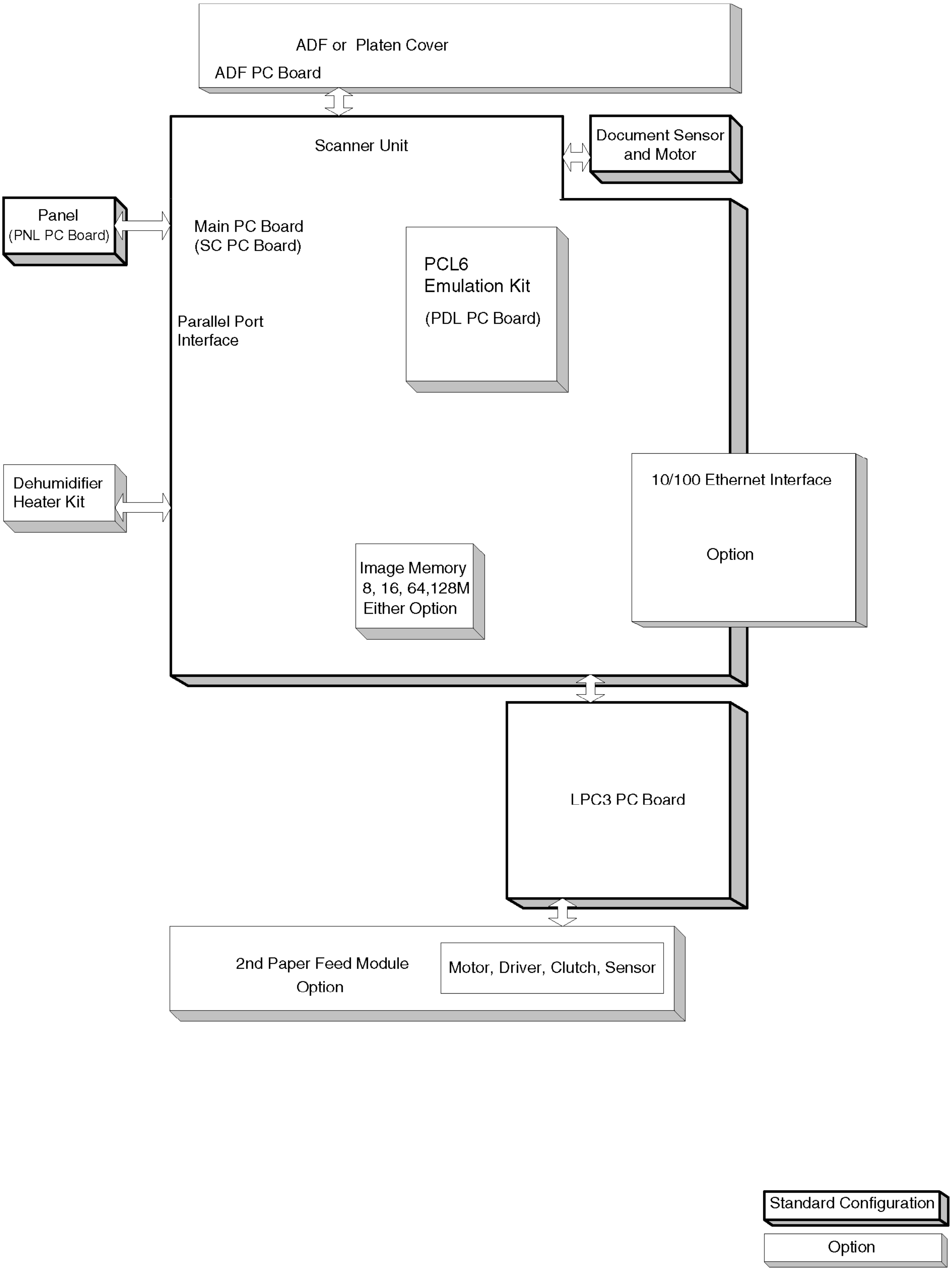
Note:
DP-1810F model only.

Items		Description	Remarks
		DP-1810F	
Main Specifications			
1	Communication Protocols	TCP / IP	SMTP / MIME
2	Max. Modem Speed	NA	
3	Coding Scheme	MH / MMR	400 dpi : MMR only
4	ECM	No	
5	Line Interface	RJ-45 (Ethernet)	Ethernet LAN
Scanner Mechanism			
1	Max. Document Size	LDR / A3	
2	Effective Scanning Width	11.4" (289 mm)	
3	Scanning Resolution (pel/mm x lines/mm)	8 x 3.85 8 x 7.7 8 x 15.4 16 x 15.4	LAN: 400 dpi Scanning Resolution is available with Parameter setting.
Printer Mechanism			
1	Printing Resolution	600 dpi	FAX : 406 x 391 dpi Network Printer : 600 dpi
2	Effective Recording Width	11.4" (289 mm)	
Transmission Features			
1	Multi-Task Operation	Yes	Simultaneous operation of G3 Fax and LAN is available.
2	Memory Transmission	Yes	
3	Sequential Multi-Station Transmission	No	
4	Simultaneous Multi-Station Transmission	Yes	Max. 190 stations
5	Sender Selection	Yes	
6	G3 / Email Mixed Broadcasting	Yes	
7	Deferred Transmission	Yes	
8	Fax Forward	Yes	Received File Transfer, only with I-FAX Option
9	Sub-address RCV	Yes	Inbound Routing, only with I-FAX Option
10	Mail Header		
	Email Header Print Selection	Yes	All or From / To / Subject only
	Subject Line	Random Entry	
	CC/BCC Selection	Yes	
LAN Features			
1	Internet Fax Communication	Yes	A3 Communication is available with Parameter setting.
2	Internet Mail Reception	Yes	

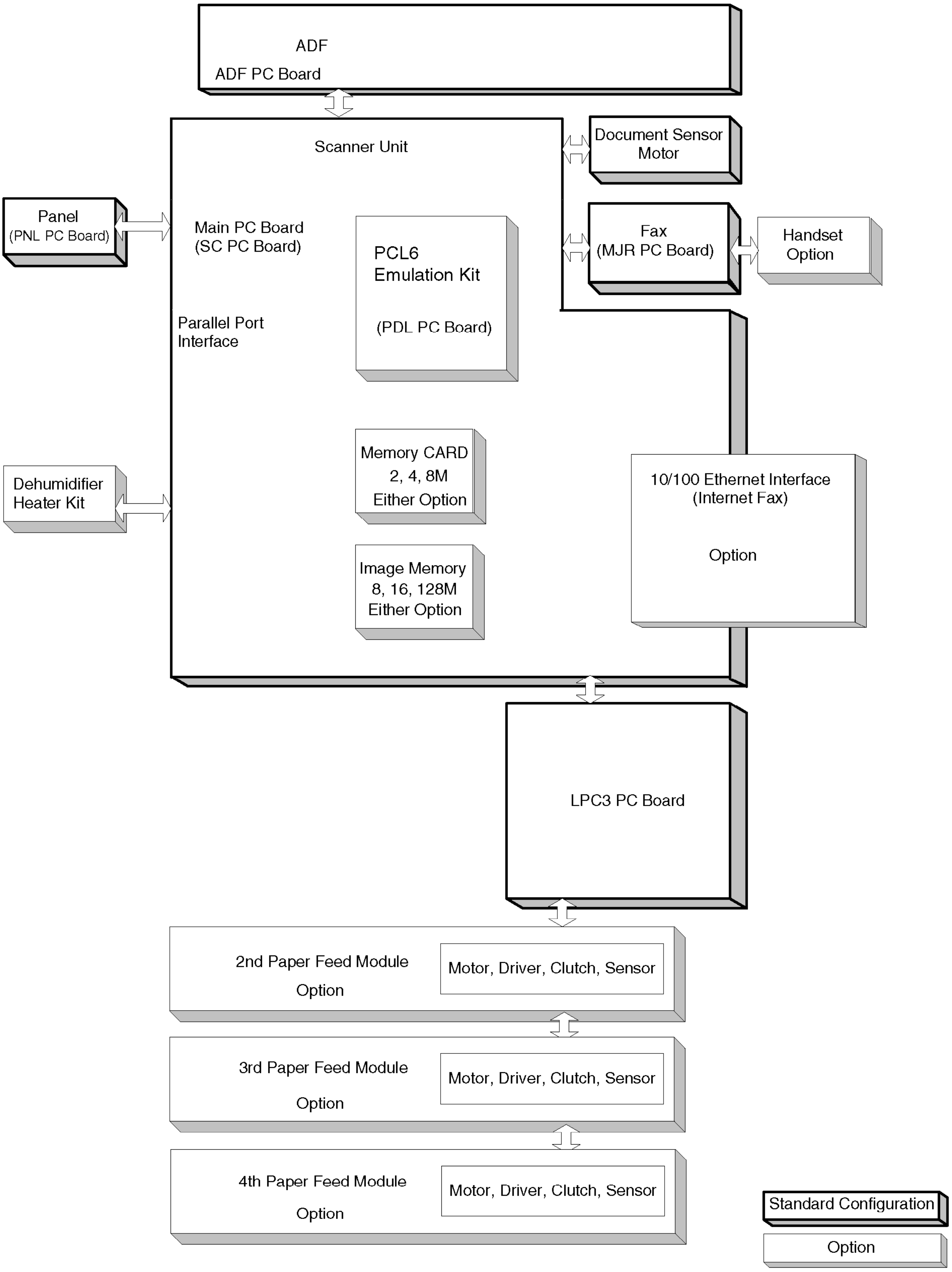
Items			Description	Remarks
			DP-1810F	
3	Internet Fax Server Features			
		Internet Fax Relay XMT	Yes	iFAX → iFAX → G3FAX
		Email Relay MXT	Yes	PC → iFAX → G3FAX
		Received Fax / Email Forward	Yes	Local print available
		PC to FAX Transmission	No	
		Inbound Routing	Yes	Using Sub-Address. Local print available
		Phone Book Registration from PC	Yes	Via Email
4	i-Fax Parameters Registration via Email		Yes	
5	Internet Delivery Confirmation		Yes	Its own mode
6	Network Scanning		Yes (400 dpi)	400 dpi (Default / Max.). 600 dpi is not available. Network Scanning mode can be selected during setup.
7	Network Printing			
		LPR / LPD	Yes (600 dpi)	
		GDI	Yes	Parallel Port is not available when connected to the LAN.
		PDL	Yes	Requires Optional PCL6 Emulation Kit.
8	DHCP Client		No	
Certainty				
1	Comm. Journal (w / Image)		Yes	Email from RCV side to Panafax i-Fax's only.
ID				
1	Email Address		Yes	

1.3. System Combination

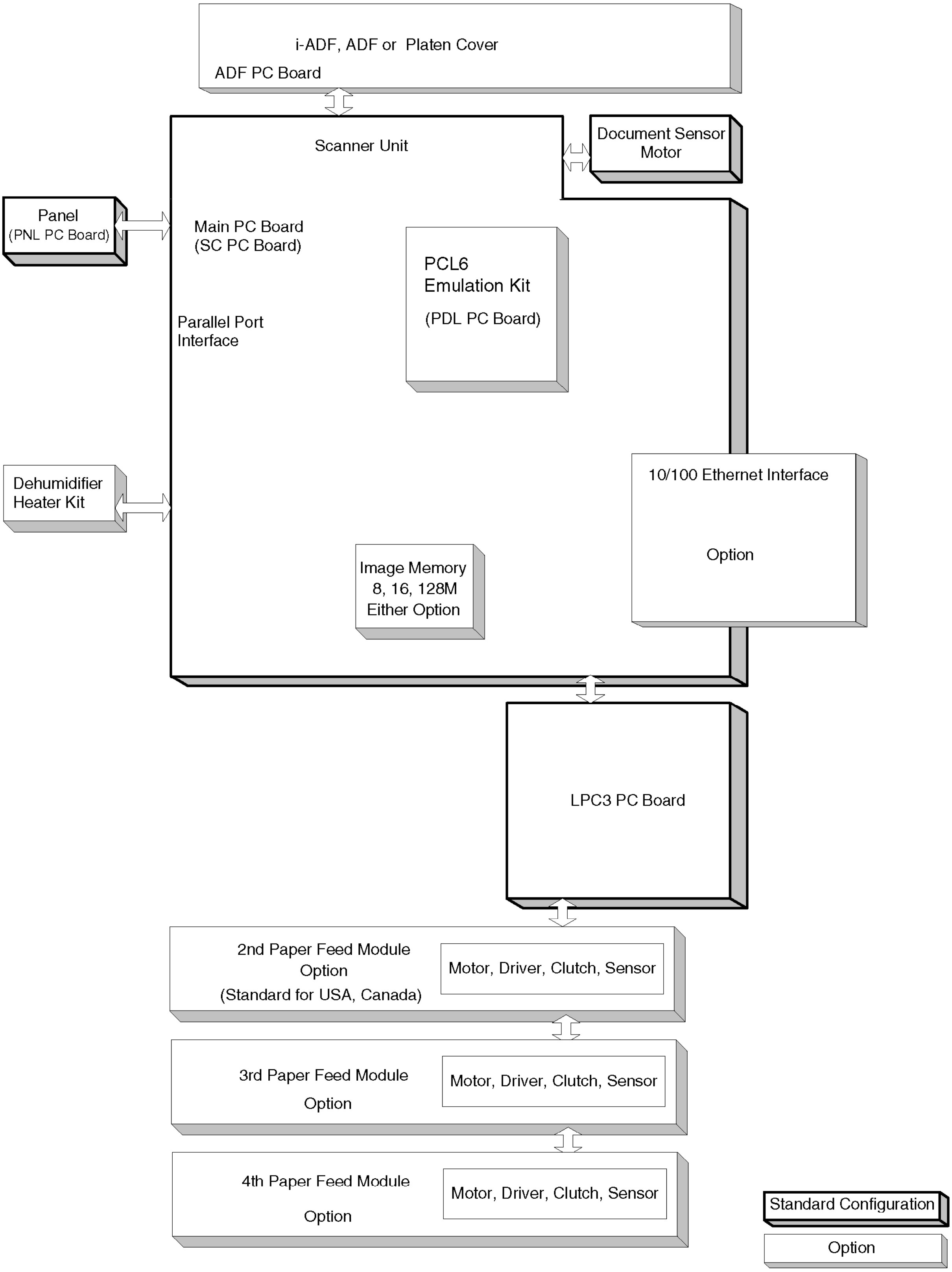
For DP-1510P/1810P


ADF or Platen Cover
ADF PC Board
Scanner Unit
Document Sensor and Motor
Panel
(PNL PC Board)
Main PC Board
(SC PC Board)
PCL6
Emulation Kit
(PDL PC Board)
Parallel Port Interface
Dehumidifier Heater Kit
10/100 Ethernet Interface
Option
Image Memory
8, 16, 64,128M
Either Option
LPC3 PC Board
2nd Paper Feed Module
Option
Motor, Driver, Clutch, Sensor
Standard Configuration
Option

For DP-1810F


ADF
ADF PC Board
Scanner Unit
Document Sensor
Motor
Panel
(PNL PC Board)
Main PC Board
(SC PC Board)
PCL6
Emulation Kit
(PDL PC Board)
Fax
(MJR PC Board)
Handset
Option
Parallel Port
Interface
Memory CARD
2, 4, 8M
Either Option
Dehumidifier
Heater Kit
10/100 Ethernet Interface
(Internet Fax)
Option
Image Memory
8, 16, 128M
Either Option
LPC3 PC Board
2nd Paper Feed Module
Option
Motor, Driver, Clutch, Sensor
3rd Paper Feed Module
Option
Motor, Driver, Clutch, Sensor
4th Paper Feed Module
Option
Motor, Driver, Clutch, Sensor
Standard Configuration
Option

For DP-2010E


i-ADF, ADF or Platen Cover
ADF PC Board
Scanner Unit
Document Sensor
Motor
Panel
(PNL PC Board)
Main PC Board
(SC PC Board)
PCL6
Emulation Kit
(PDL PC Board)
Parallel Port
Interface
10/100 Ethernet Interface
Option
Dehumidifier
Heater Kit
Image Memory
8, 16, 128M
Either Option
LPC3 PC Board
2nd Paper Feed Module
Option
(Standard for USA, Canada)
Motor, Driver, Clutch, Sensor
3rd Paper Feed Module
Option
Motor, Driver, Clutch, Sensor
4th Paper Feed Module
Option
Motor, Driver, Clutch, Sensor
Standard Configuration
Option

1.4. Option and Supply Lists

1.4.1. Options

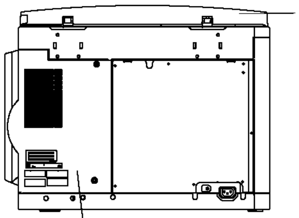
Part Name	Part Number	Remarks
10/100 Ethernet Interface	DA-NE200	Available in Specified Destinations
PCL6 Emulation Kit	DA-PC210	
Image Memory (8MB)	DA-SM08B	Only one module can be installed.
Image Memory (16MB)	DA-SM16B	
Image Memory (64MB)	DA-SM64B	
Image Memory (128MB)	DA-SM28B	
Handset Kit	UE-403167	For U.S.A/Canada
	UE-403117	For Other Destinations
Expansion Flash Memory Card, 2MB	UE-410046	
Expansion Flash Memory Card, 4MB	UE-410047	Only for DP-1810F
Expansion Flash Memory Card, 8MB	UE-410048	
Automatic Document Feeder	DA-AS180	Standard for DP-1810F
Inverting Automatic Document Feeder (i-ADF)	DA-AR201	Only for DP-2010E
2nd/4th Paper Feed Module	DA-DS182	
3rd Paper Feed Module	DA-DS183	Except for DP-1510P/1810P

1.4.2. Supplies

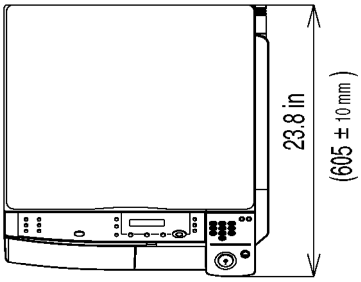
Part Name	Part Number	Remarks
Toner Bottle	DQ-TU10C	Sales Route
OPC Drum	DQ-H045B	

1.5. External View

For DP-1510P/1810P/2010E



Rear View

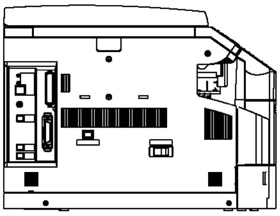


Top View

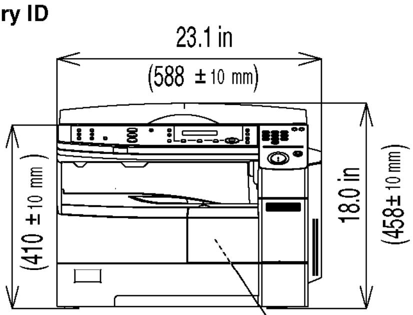
(For USA only)

Product complies with DHHS Rules 21
CFR Subchapter J in effect at date
of manufacture.

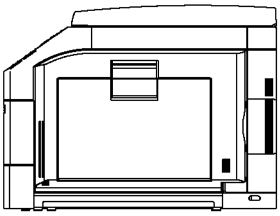
Manufacturer's name and address **Factory ID**



Left View



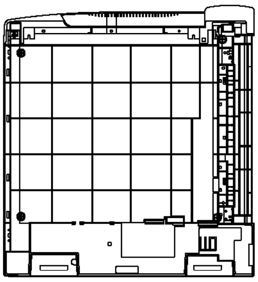
Front View



Right View

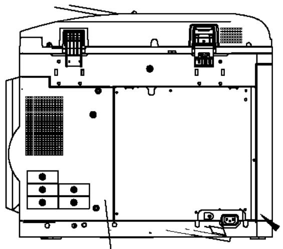
- **DANGER** : Invisible laser radiation when open and interlock defeated. AVOID DIRECT EXPOSURE TO BEAM.
- **CAUTION** : Invisible and hazardous laser radiation when interlocks defeated. AVOID EXPOSURE TO BEAM.
- **ATTENTION** : Rayonnement laser invisible dangereux lorsque la sécurité est neutralisée. EXPOSITION DANGEREUSE AU FAISCEAU.
- **VORSICHT** : Unsichtbare Laserstrahlung, wenn Sicherheitsverriegelung überbrückt. NICHT DEM STRAHL AUSSETZEN.
- **PELIGRO** : Cuando se invalida el bloqueo,se producen radiaciones invisibles de láser. EVITÉSE LA EXPOSICIÓN DIRECTA A TALES RAYOS.
- **VARO!** : Näkymätöntä ja vaarallista lasersäteilyä suojaluktitus ohitettaessa. Vältäsuoraa altistumista säteelle.
- **ADVARSEL** : USYNLIG LÅSERSTRALING NÅR SIKKERHEDSAF-BRYDERE ER UDE AF FUNKTION. UNDGÅ UDSETTELSE FOR STRÅLING.
- **ADVARSEL** : USYNLIG LÅSERSTRALING NÅR SIKKERHEDS-LÅS BRYTES. UNNGÅ EKSPONERING FOR STRÅLEN.
- **VARNING** : OSYNLIG LASERSTRÅLNING NÄR SPÄRRAR.ÄR URKOPPLADE. STRÅLEN ÄR FARLIG.
- **注意**：为防止激光照射，当连接本机时，请勿暴露在光柱下.
- **주의** : 연결장치가 고장 났을 때에는 눈에 보이지않고 위험한 레이저 방사선이 빛에 직접 닿지않도록 해 주십시오.

FBS8902

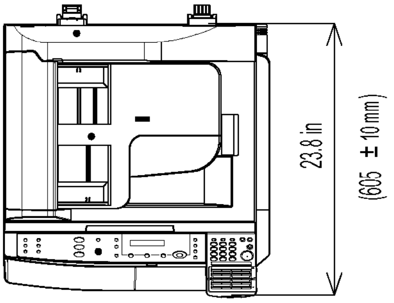


Bottom View

For DP-1810F

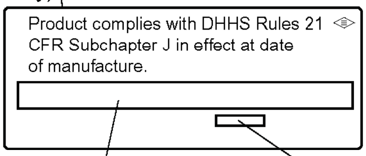


Rear View



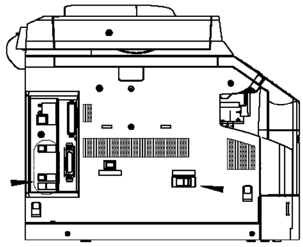
Top View

(For USA only)

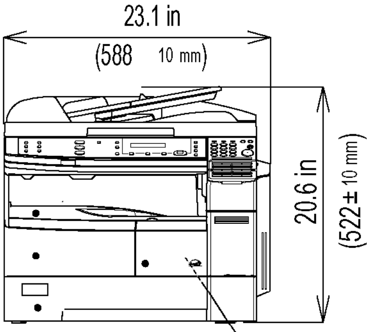


Product complies with DHHS Rules 21 CFR Subchapter J in effect at date of manufacture.

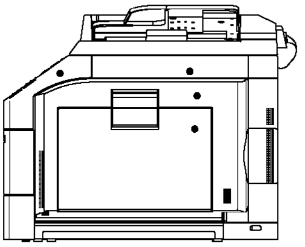
Manufacturer's name and address **Factory ID**



Left View



Front View



Right View

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- **ADVARSEL** : USYNLIG LÅSERSTRALING NÅR SIKKERHEDSAF-BRYDERE ER UDE AF FUNKTION. UNDGÅ UDSETTELSE FOR STRÅLING.
- **ADVARSEL** : USYNLIG LÅSERSTRALING NÅR SIKKERHEDS-LÅS BRYTES. UNNGÅ EKSPONERING FOR STRÅLEN.
- **VARNING** : OSYNLIG LASERSTRÅLNING NÄR SPÄRRAR.ÄR URKOPPLADE. STRÅLEN ÄR FARLIG.
- **注意**：为防止激光照射，当连接本机时，请勿暴露在光柱下.
- **주의** : 연결장치가 고장 났을 때에는 눈에 보이지않고 위험한 레이저 방사선이 빛에 직접 닿지않도록 해 주십시오.

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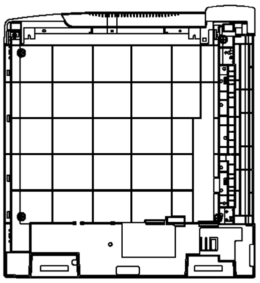


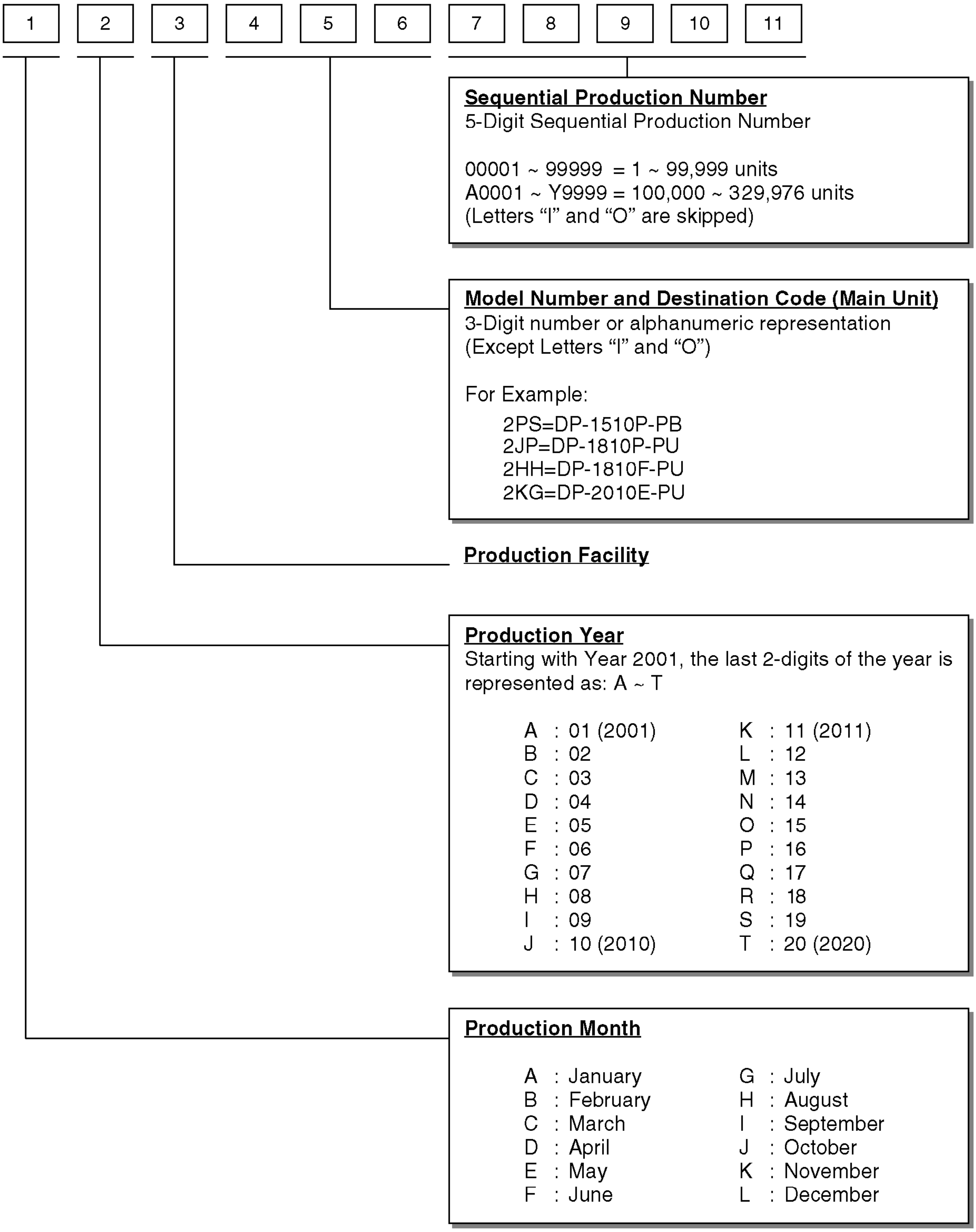
Bottom View

⚠ CAUTION

THIS PRODUCT CONTAINS A LITHIUM BATTERY. DANGER OF EXPLOSION IF BATTERY IS INCORRECTLY REPLACED.
REPLACE ONLY WITH THE SAME OR EQUIVALENT TYPE. DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS OF YOUR LOCAL SOLID WASTE OFFICIALS.

1.5.1. Serial Number Contents

The contents of the 11-digit Serial Number is as follows:



Sequential Production Number (digits 7–11)

5-Digit Sequential Production Number

00001 ~ 99999 = 1 ~ 99,999 units
A0001 ~ Y9999 = 100,000 ~ 329,976 units
(Letters “I” and “O” are skipped)

Model Number and Destination Code (Main Unit) (digits 4–6)

3-Digit number or alphanumeric representation
(Except Letters “I” and “O”)

For Example:

2PS=DP-1510P-PB
2JP=DP-1810P-PU
2HH=DP-1810F-PU
2KG=DP-2010E-PU

Production Facility (digit 3)

Production Year (digit 2)

Starting with Year 2001, the last 2-digits of the year is represented as: A ~ T

A : 01 (2001)
B : 02
C : 03
D : 04
E : 05
F : 06
G : 07
H : 08
I : 09
J : 10 (2010)
K : 11 (2011)
L : 12
M : 13
N : 14
O : 15
P : 16
Q : 17
R : 18
S : 19
T : 20 (2020)

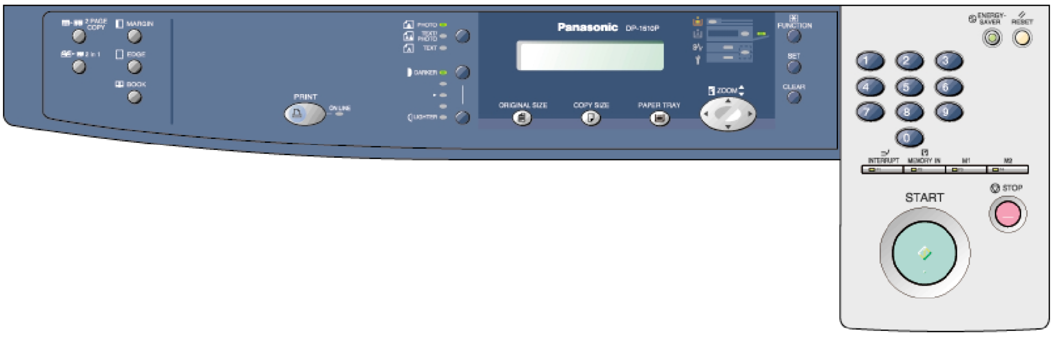
Production Month (digit 1)

A : January
B : February
C : March
D : April
E : May
F : June
G : July
H : August
I : September
J : October
K : November
L : December

1.6. Control Panel

DP-1510P

For EURO and Other Destinations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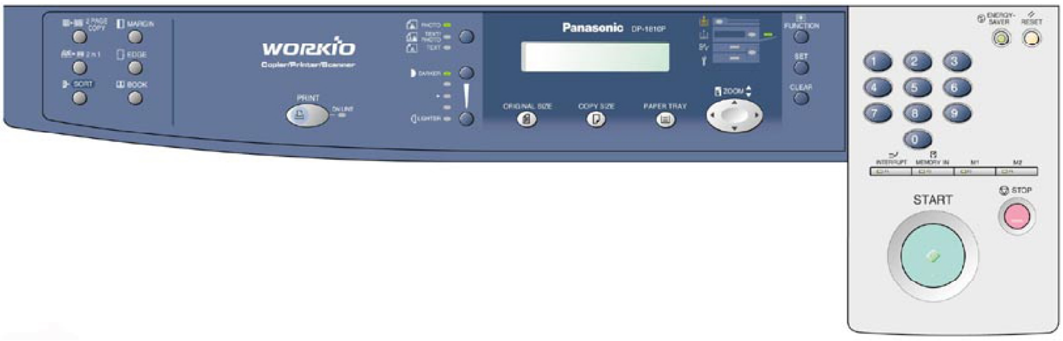
MARGIN
2 in 1
EDGE
BOOK
PRINT
ON LINE
PHOTO
TEXT PHOTO
TEXT
DARKER
LIGHTER
Panasonic DP-1810P
ORIGINAL SIZE
COPY SIZE
PAPER TRAY
ZOOM
FUNCTION
SET
CLEAR
ENERGY-SAVER
RESET
1
2
3
4
5
6
7
8
9
0
INTERRUPT
MEMORY IN
M1
M2
START
STOP

DP-1810P

For USA and Canada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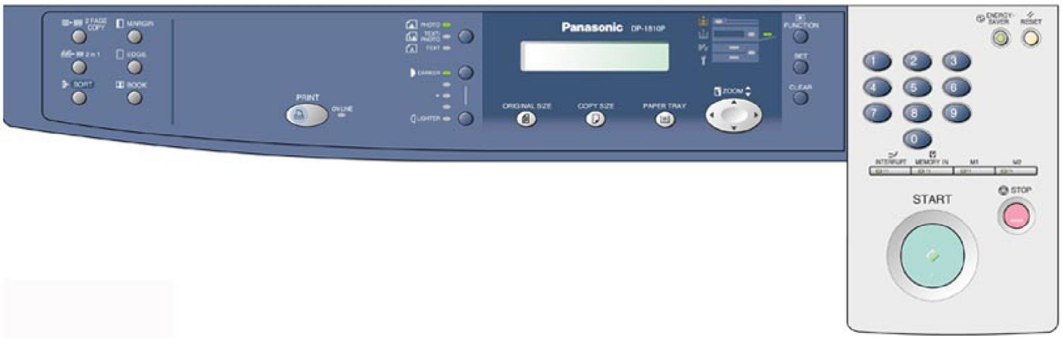
MARGIN
2 in 1
EDGE
SORT
BOOK
WORKiO
Copier/Printer/Scanner
PRINT
ON LINE
PHOTO
TEXT PHOTO
TEXT
DARKER
LIGHTER
Panasonic DP-1810P
ORIGINAL SIZE
COPY SIZE
PAPER TRAY
ZOOM
FUNCTION
SET
CLEAR
ENERGY-SAVER
RESET
1
2
3
4
5
6
7
8
9
0
INTERRUPT
MEMORY IN
M1
M2
START
STOP

For Other Destinations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DARKER
LIGHTER
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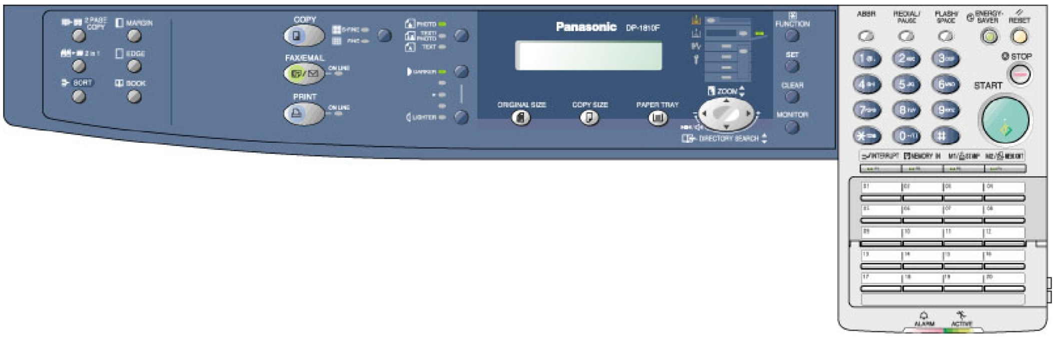
ORIGINAL SIZE
COPY SIZE
PAPER TRAY
ZOOM
FUNCTION
SET
CLEAR
ENERGY-SAVER
RESET
1
2
3
4
5
6
7
8
9
0
INTERRUPT
MEMORY IN
M1
M2
START
STOP

DP-1810F

For All Destinations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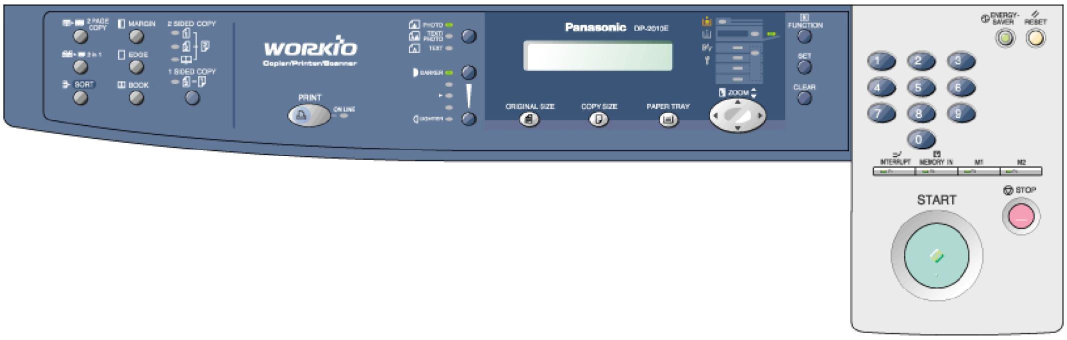
MARGIN
2 in 1
EDGE
SORT
BOOK
COPY
FAX/EMAIL
ON LINE
PRINT
ON LINE
PHOTO
TEXT PHOTO
TEXT
DARKER
LIGHTER
Panasonic DP-1810F
ORIGINAL SIZE
COPY SIZE
PAPER TRAY
ZOOM
DIRECTORY SEARCH
FUNCTION
SET
CLEAR
MONITOR
ABBR
REDIAL/PAUSE
FLASH/SPACE
ENERGY-SAVER
RESET
STOP
START
INTERRUPT
MEMORY IN
ALARM
ACTIVE

DP-2010E

For USA and Canada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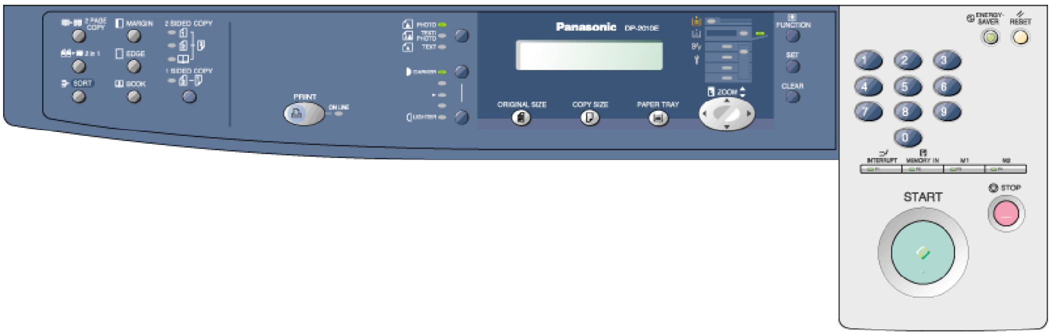
MARGIN
2 SIDED COPY
2 in 1
EDGE
1 SIDED COPY
SORT
BOOK
WORKiO
Copier/Printer/Scanner
PRINT
ON LINE
PHOTO
TEXT PHOTO
TEXT
DARKER
LIGHTER
Panasonic DP-2010E
ORIGINAL SIZE
COPY SIZE
PAPER TRAY
ZOOM
FUNCTION
SET
CLEAR
ENERGY-SAVER
RESET
INTERRUPT
MEMORY IN
M1
M2
STOP
START

For Other Destinations


2 PAGE COPY
MARGIN
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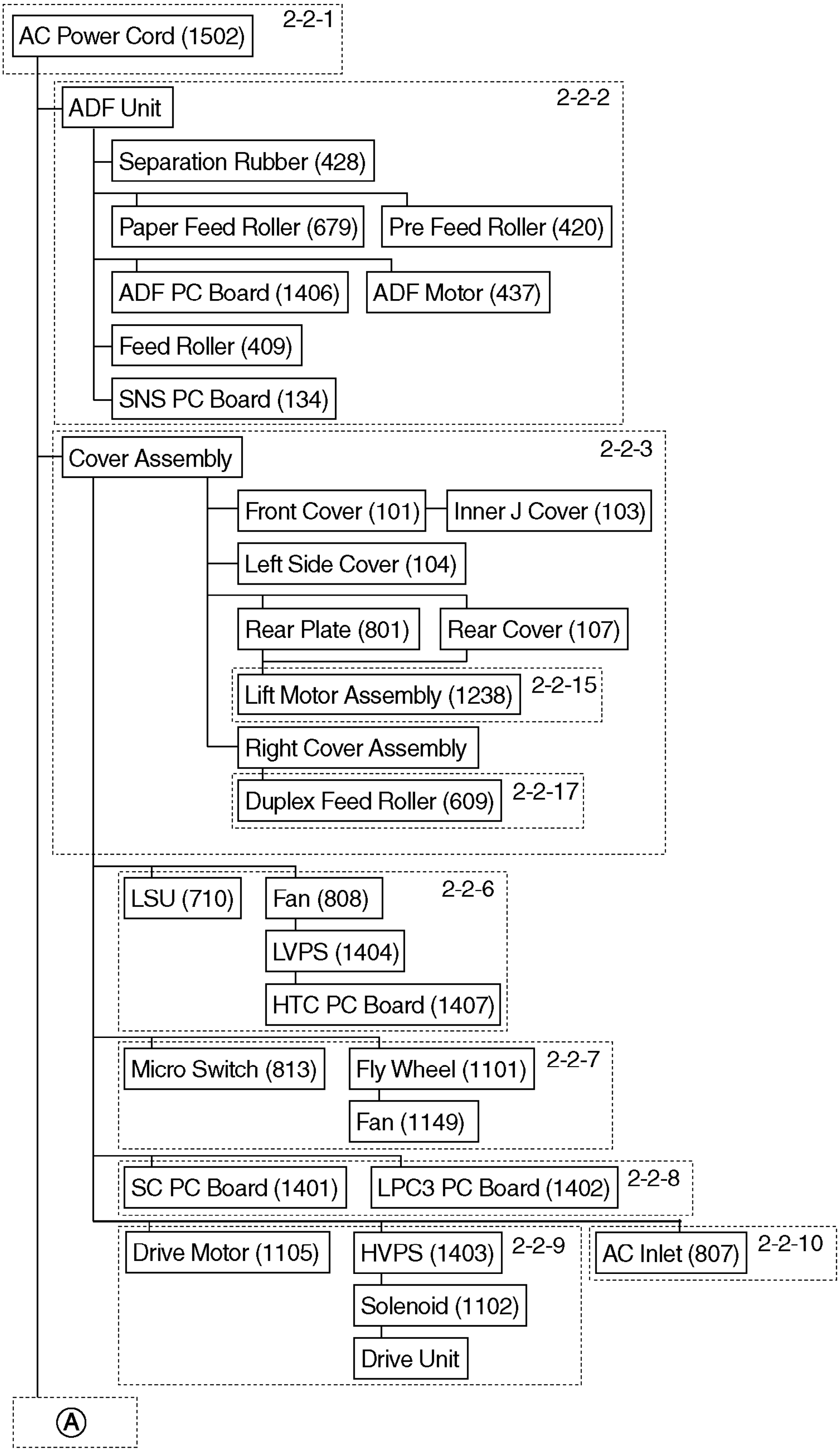
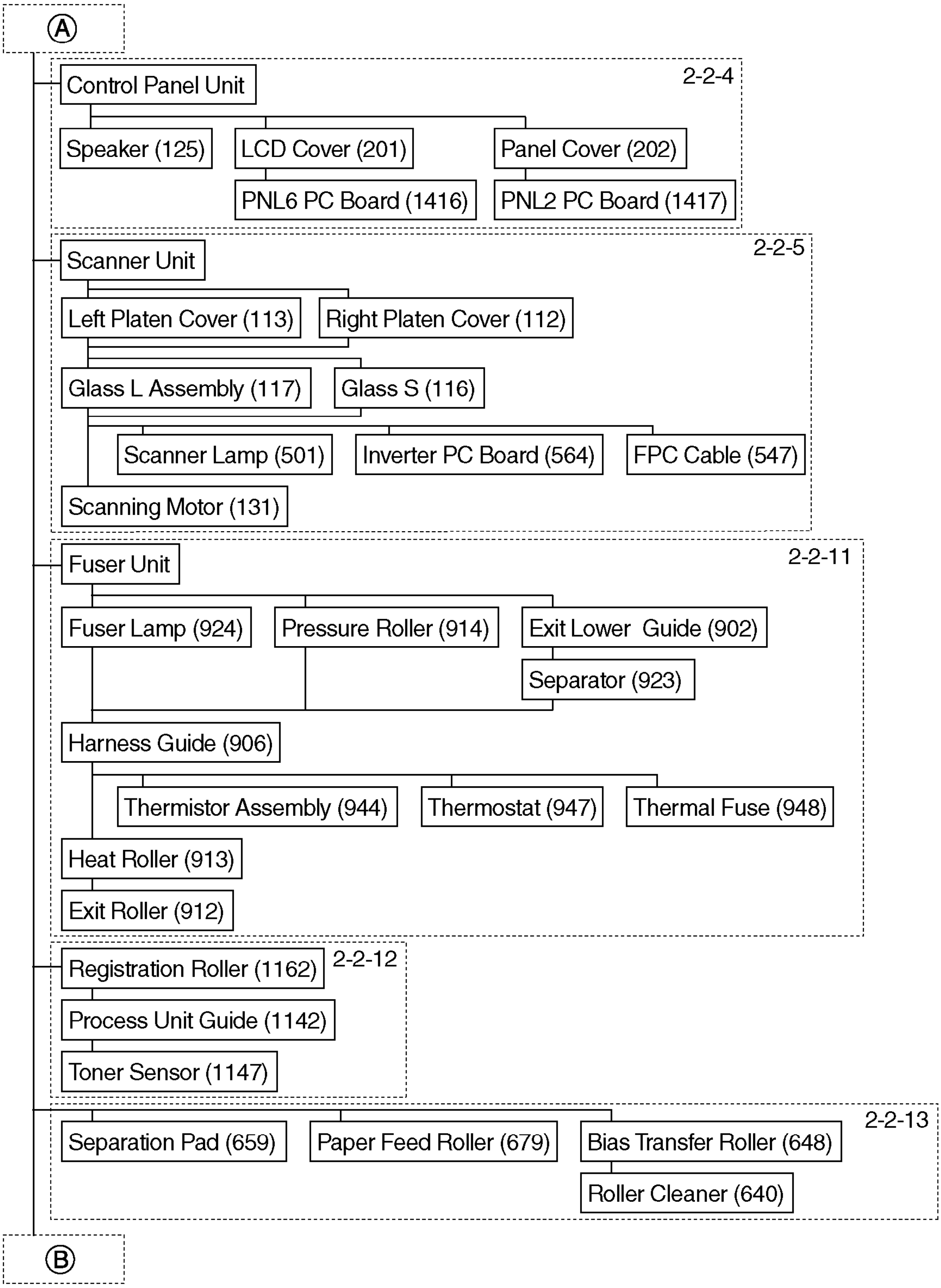
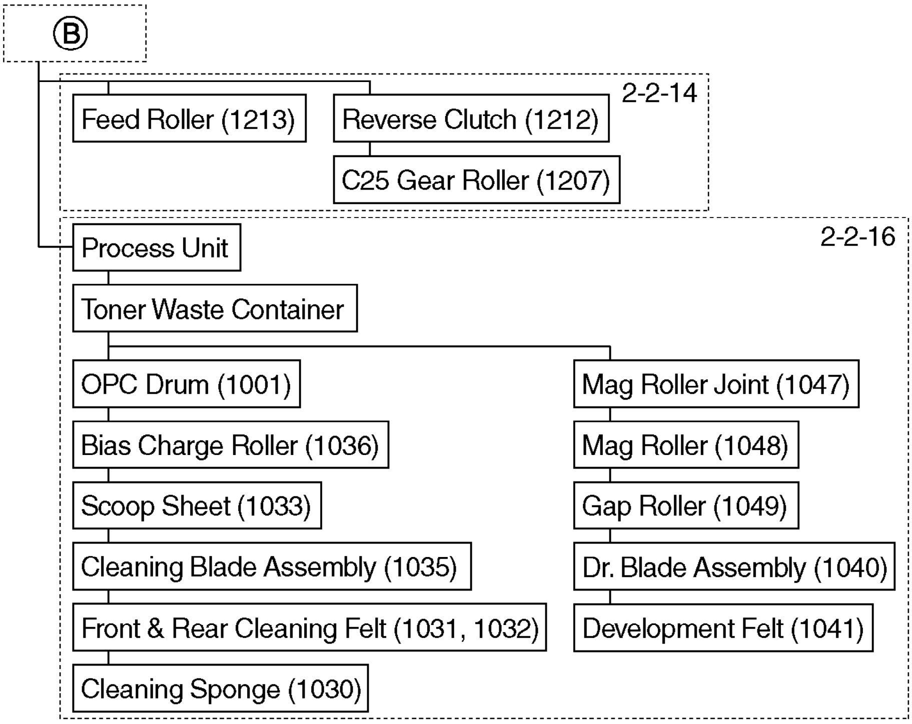
2 in 1
EDGE
1 SIDED COPY
SORT
BOOK
PRINT
ON LINE
PHOTO
TEXT PHOTO
TEXT
DARKER
LIGHTER
Panasonic DP-2010E
ORIGINAL SIZE
COPY SIZE
PAPER TRAY
ZOOM
FUNCTION
SET
CLEAR
ENERGY-SAVER
RESET
INTERRUPT
MEMORY IN
M1
M2
STOP
START

2 Disassembly Instructions

2.1. General Disassembly Flowchart

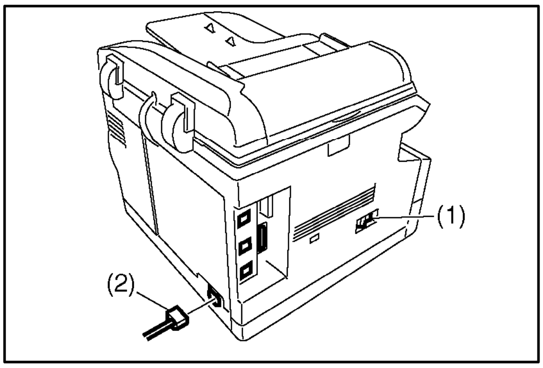

AC Power Cord (1502)
2-2-1
ADF Unit
2-2-2
Separation Rubber (428)
Paper Feed Roller (679)
Pre Feed Roller (420)
ADF PC Board (1406)
ADF Motor (437)
Feed Roller (409)
SNS PC Board (134)
Cover Assembly
2-2-3
Front Cover (101)
Inner J Cover (103)
Left Side Cover (104)
Rear Plate (801)
Rear Cover (107)
Lift Motor Assembly (1238)
2-2-15
Right Cover Assembly
Duplex Feed Roller (609)
2-2-17
LSU (710)
Fan (808)
2-2-6
LVPS (1404)
HTC PC Board (1407)
Micro Switch (813)
Fly Wheel (1101)
2-2-7
Fan (1149)
SC PC Board (1401)
LPC3 PC Board (1402)
2-2-8
Drive Motor (1105)
HVPS (1403)
2-2-9
Solenoid (1102)
Drive Unit
AC Inlet (807)
2-2-10
Ⓐ


Ⓐ
2-2-4
Control Panel Unit
Speaker (125)
LCD Cover (201)
Panel Cover (202)
PNL6 PC Board (1416)
PNL2 PC Board (1417)
2-2-5
Scanner Unit
Left Platen Cover (113)
Right Platen Cover (112)
Glass L Assembly (117)
Glass S (116)
Scanner Lamp (501)
Inverter PC Board (564)
FPC Cable (547)
Scanning Motor (131)
2-2-11
Fuser Unit
Fuser Lamp (924)
Pressure Roller (914)
Exit Lower Guide (902)
Separator (923)
Harness Guide (906)
Thermistor Assembly (944)
Thermostat (947)
Thermal Fuse (948)
Heat Roller (913)
Exit Roller (912)
Registration Roller (1162)
2-2-12
Process Unit Guide (1142)
Toner Sensor (1147)
2-2-13
Separation Pad (659)
Paper Feed Roller (679)
Bias Transfer Roller (648)
Roller Cleaner (640)
Ⓑ

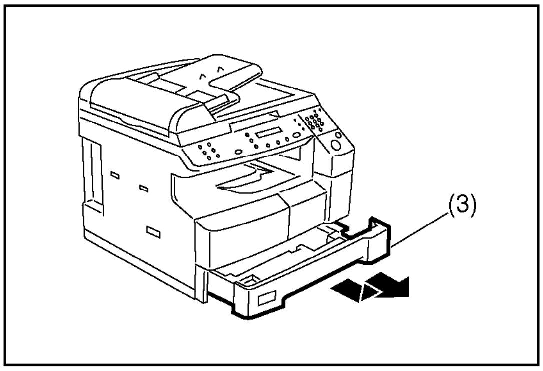

Ⓑ
2-2-14
Feed Roller (1213)
Reverse Clutch (1212)
C25 Gear Roller (1207)
2-2-16
Process Unit
Toner Waste Container
OPC Drum (1001)
Bias Charge Roller (1036)
Scoop Sheet (1033)
Cleaning Blade Assembly (1035)
Front & Rear Cleaning Felt (1031, 1032)
Cleaning Sponge (1030)
Mag Roller Joint (1047)
Mag Roller (1048)
Gap Roller (1049)
Dr. Blade Assembly (1040)
Development Felt (1041)

2.2. Disassembly Instructions

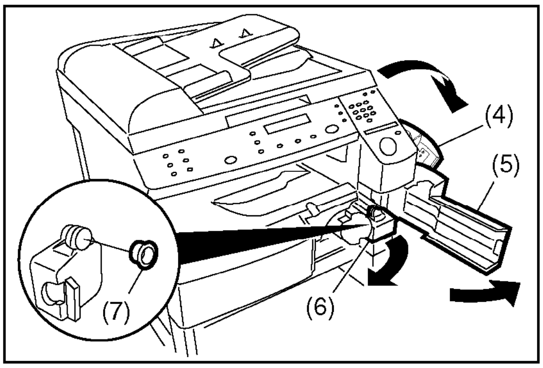
2.2.1. Power Cord, Recording Paper Tray, Process Unit



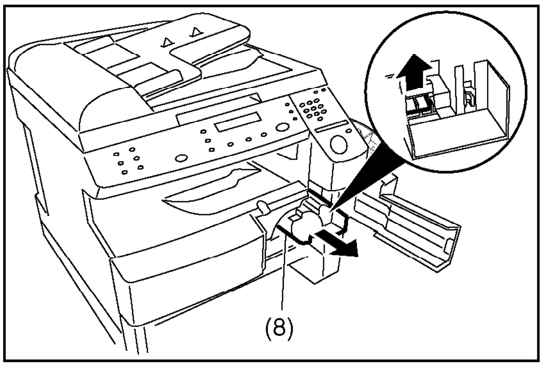
(1) Turn the Power Switch to the OFF (O) position.
(2) Disconnect the **AC Power Cord** (1502).



(3) Remove the **Paper Tray**.

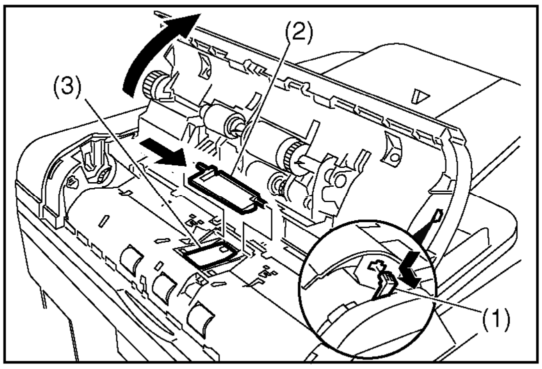


(4) Open the **Right Cover** (601).
(5) Open the **Front Door Cover** (102).
(6) Remove the **Toner Waste Container** by slowly pulling it towards the left as illustrated.
(7) Seal the Container with the enclosed cap and dispose of it properly.

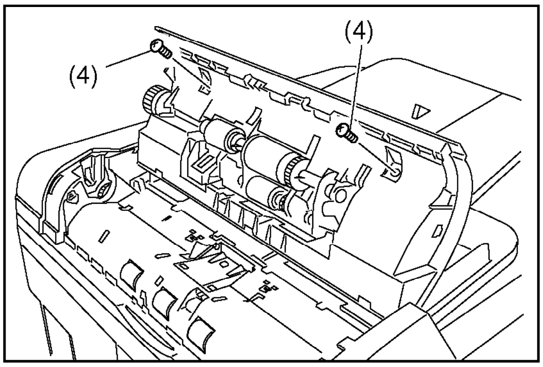


(8) Lift the **Release Latch** (White) and remove the **Process Unit**.

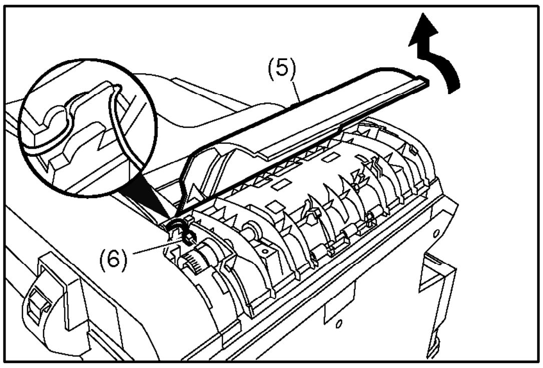
2.2.2. ADF Unit



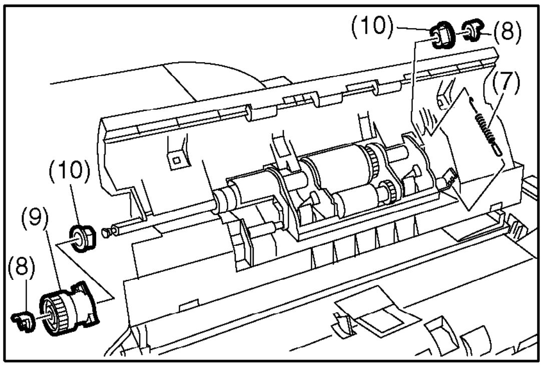
(1) Open the **ADF Cover** (418) and release the **ADF Cover Stopper** (414).
(2) Remove the **Pad Cover** (427).
(3) Remove the **Separation Rubber** (428).



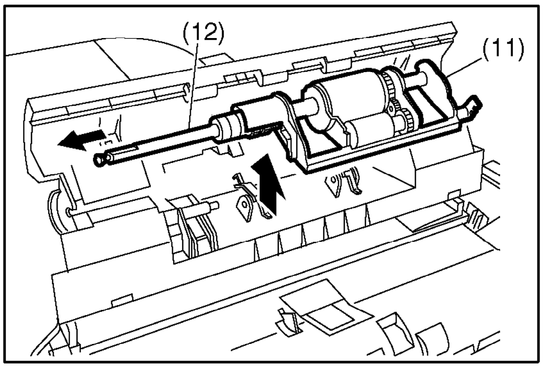
(4) 2 **Screws** (19).



(5) Remove the **ADF Cover** (418).
(6) Disconnect the **ADF Harness** (1836).

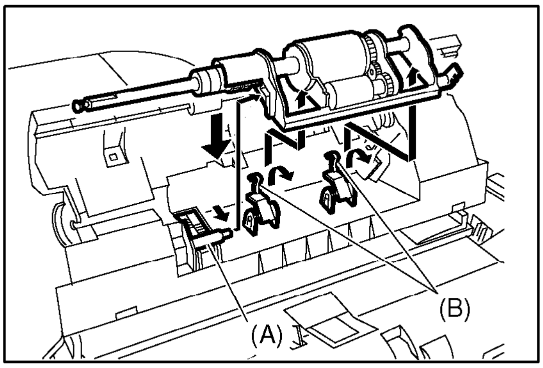


(7) Remove the **Pick Up Spring** (426).
(8) Remove 2 **Snap Rings** (G3).
(9) Remove the **Clutch** (1141).
(10) Remove 2 **Bushings** (410).



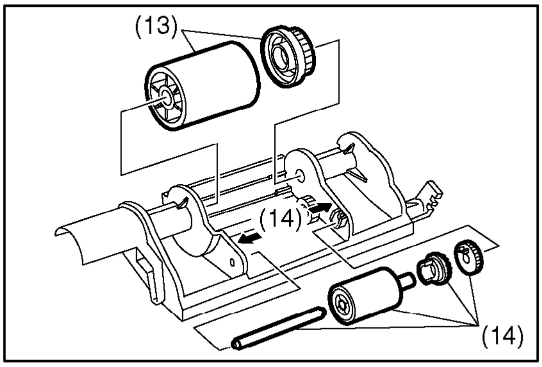
(11) Remove **Roller Holder** (430) Assembly.

(12) Remove the **Paper Feed Shaft Assembly** (433).



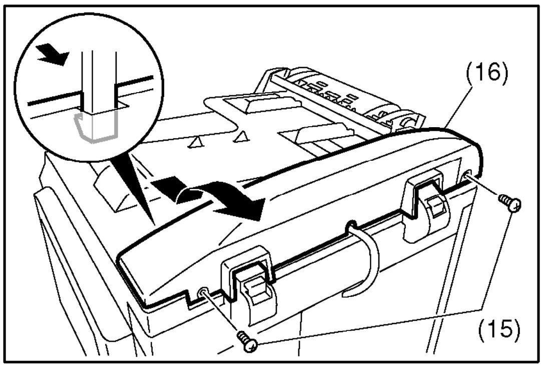
Note:

When re-installing, make sure that the **Roller Holder** (430) Assembly is properly placed on the ADF Unit.



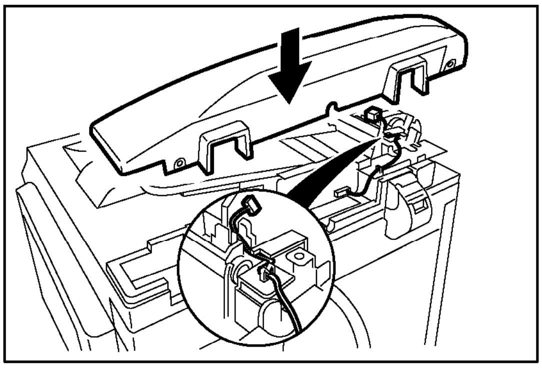
(13) Remove **Paper Feed Roller** (679) and **D26 D Gear** (429).

(14) Remove the **Pre Feed Roller** (420), **Pre Feed Shaft** (421) and **Pre Feed Gear 1** and **2** (422, 423).

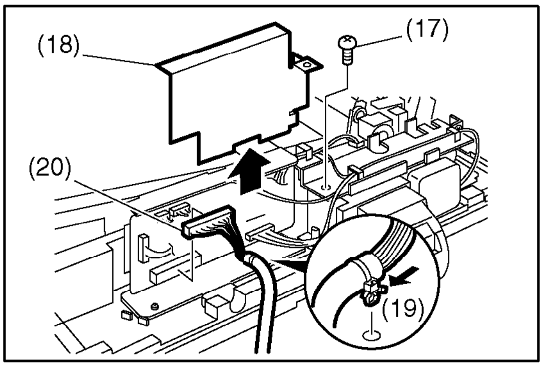


(15) 2 **Silver Screws** (B1).

(16) Lift cover and release the **Latch Hook** then remove the **ADF Rear Cover** (301).



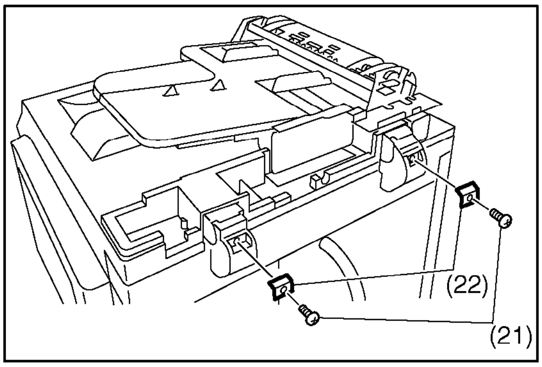
Note:
When re-installing the **ADF Rear Cover** (301), make sure that the **ADF Harness** is properly placed as shown in the illustration.



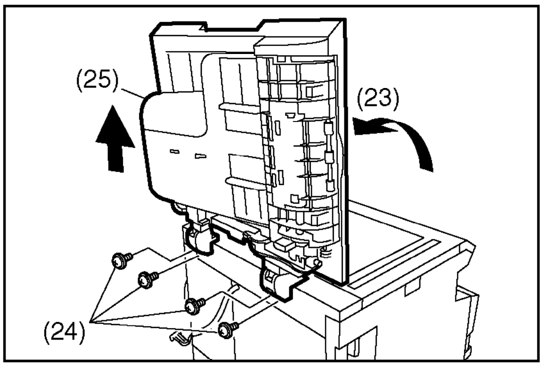
(17) 1 **Screw** (19).
(18) Remove the **ADF PC Board Cover** (453).
(19) Release the **Clamp** from ADF Unit.

Note:
Do not cut the Tie-Wrap. Push the release clip on the side of the clamp to remove it.

(20) Disconnect the **Harness** (1806) on the ADF PC Board (CN21).



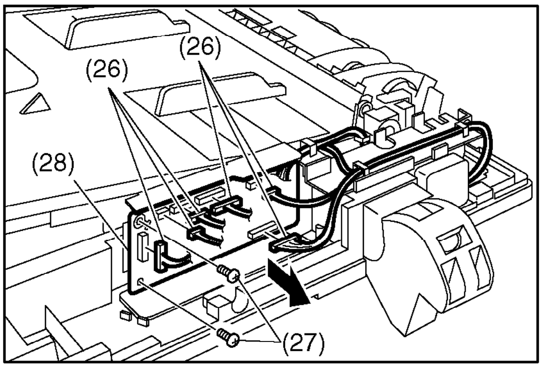
(21) 2 **Silver Screws** (B1).
(22) Remove 2 **Angle Plate** (305).



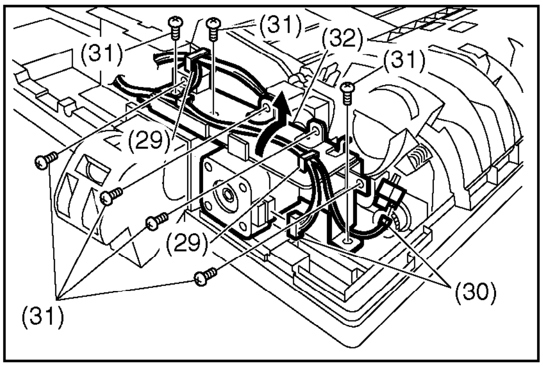
(23) Open the **ADF Unit**.
(24) 4 **Screws** (6A).

Caution:
Don’t close the ADF Unit subsequent to this step.

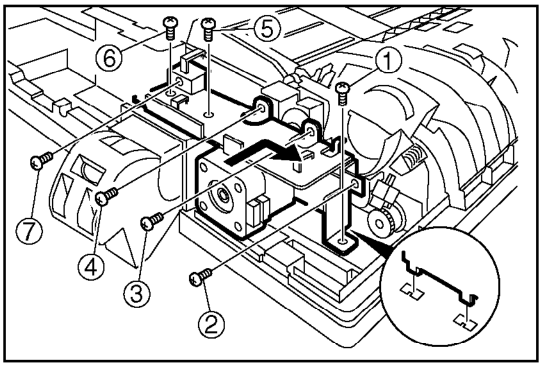
(25) Remove the **ADF Unit**.



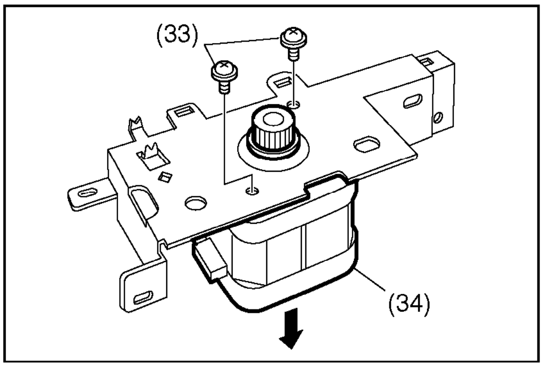
(26) Disconnect 5 **Harnesses** (1836, 1837, 1838, 1839, 1840) on the ADF PC Board. (6 connectors)
(27) 2 **Screws** (19).
(28) Remove the **ADF PC Board** (1406).



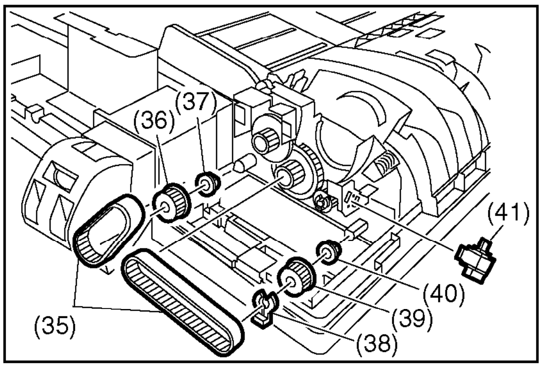
(29) Release the **Harness** from the Clamp.
(30) Disconnect 2 **Harnesses** (1836, 1838).
(31) 7 **Screws** (19).
(32) Remove the **Motor Bracket** (439) Assembly.



Note:
When re-assembling the **Motor Bracket** (439) Assembly, follow the steps as illustrated.

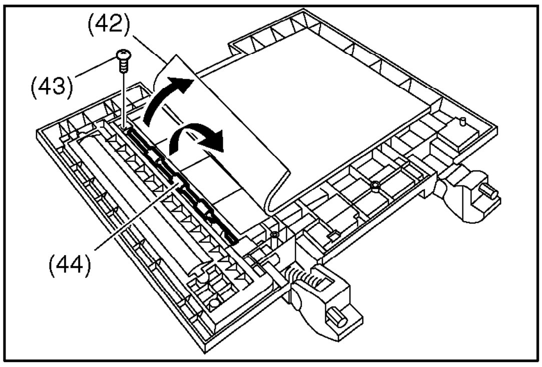


(33) 2 **Screws** (18).
(34) Remove the **ADF Motor** (437).



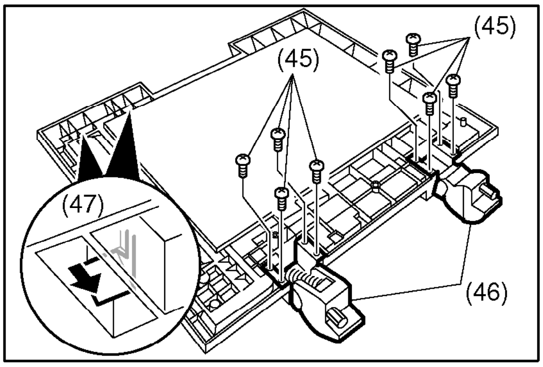
(35) Remove 2 **Drive Belts** (444, 445).
(36) Remove the **S27 Pulley** (443).
(37) Remove the **Bushing** (410).
(38) Remove the **Snap Ring** (B9).
(39) Remove the **S27 Pulley** (443).
(40) Remove the **Bushing** (410).
(41) Release the clips and remove the **Switch** (724).

Note:
Apply Molykote EM-50L Grease to 3 shafts on Bracket R (447).

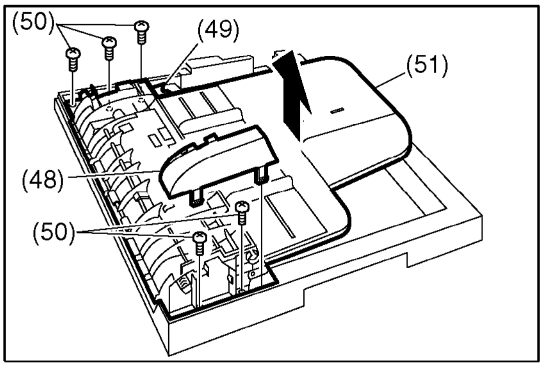


<Turn the ADF upside down>

(42) Remove the edge of the **Scanning Pad** (338).
(43) 1 **Screw** (19).
(44) Remove the **Exit Roller** (316) and **P6L8 Bushing** (317).

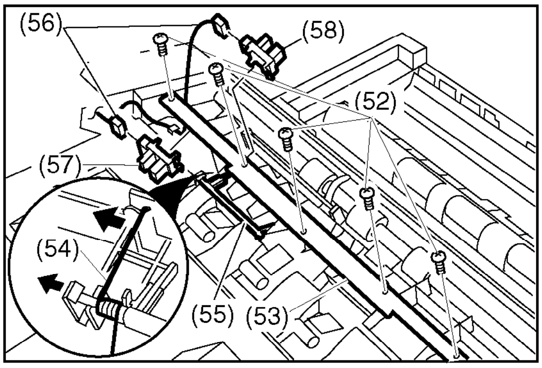


(45) 8 **Screw** (1N).
(46) Remove the **Hinge Units L** and **R**.
(47) Release 2 **Latch Hooks**.



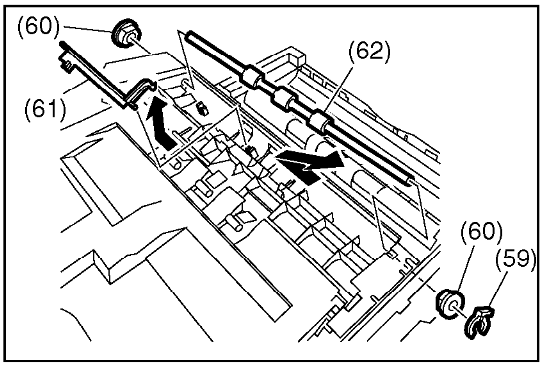
<Return the ADF to its upright position>

(48) Remove the **ADF Front Cover** (302).
(49) Release the **Harnesses** (1837, 1839) from the Clamp.
(50) 5 **Screws** (19).
(51) Remove the **Original Tray**.

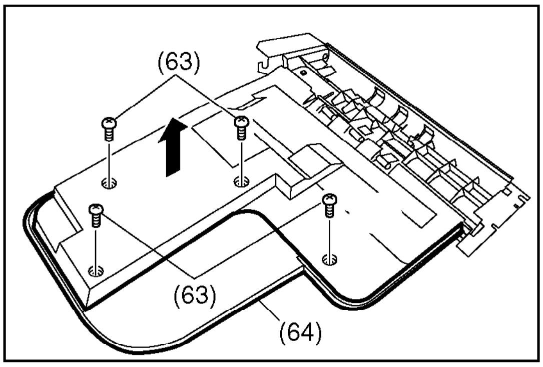


(52) 5 **Screws** (19).
(53) Remove the **Center Bracket** (452).
(54) Release the **NP Actuator Spring** (408).
(55) Remove the **NP Actuator** (407).
(56) Disconnect the **Harness** (1837). (2 Connectors)
(57) Remove the **Photo Sensor** (604).
(58) Remove the **Photo Sensor** (604).

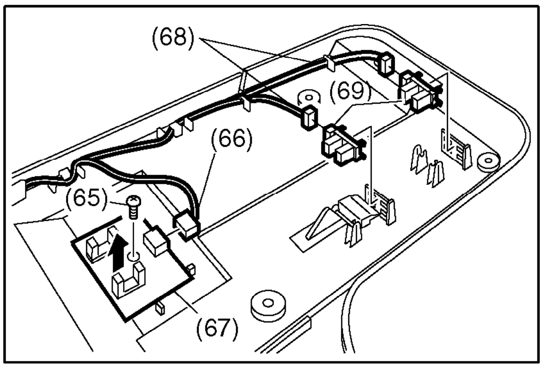
Note:
Do not break the Latch Hooks when removing or re-installing the Photo Sensors (604).



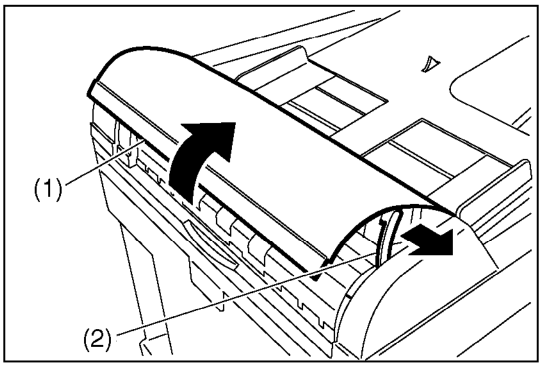
(59) Remove the **Snap Ring** (B9).
(60) Remove 2 **Bushing** (410).
(61) Remove the **Timing Actuator** (403).
(62) Remove the **Feed Roller** (409).



(63) 4 **Silver Screws** (B1).
(64) Remove the **Original Lower Tray** (327).

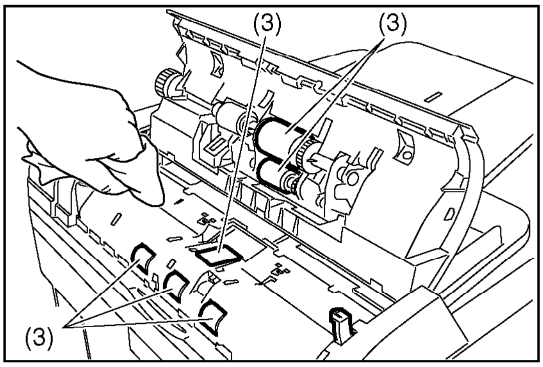


(65) 1 **Screw** (62).
(66) Disconnect the **Harness** (1839) on the SNS PC Board.
(67) Remove the **SNS PC Board** (134).
(68) Disconnect 2 **Harnesses** (1839) on the Photo Sensors.
(69) Remove 2 **Photo Sensors** (604).

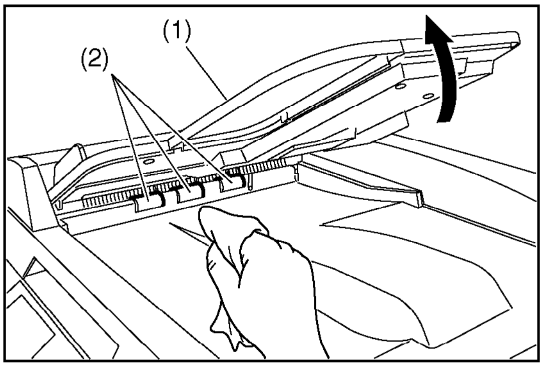


<Cleaning the Rollers and Rubber>

(1) Open the **ADF Cover**.
(2) Release the **Stopper**.

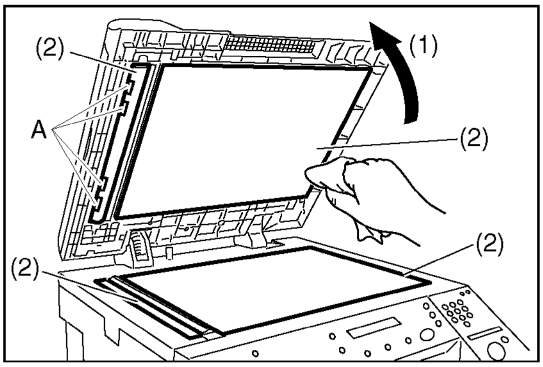


(3) Clean the **Separation Rubber**, **Feed Roller**, **Pre Feed Roller** and **Paper Feed Roller** with a soft cloth, saturated with isopropyl alcohol.



<Cleaning the Exit Roller>

(1) Lift the **Original Tray**.
(2) Clean the **Exit Roller** with a soft cloth, saturated with isopropyl alcohol.

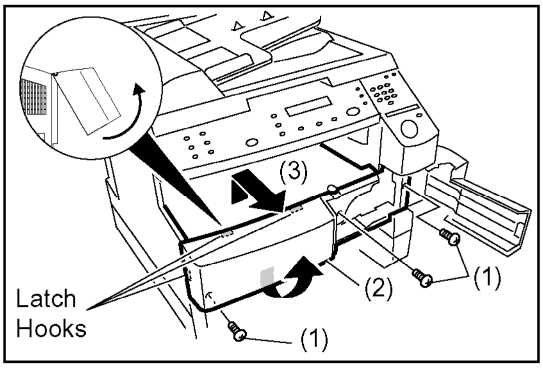


<Cleaning the Scanner>

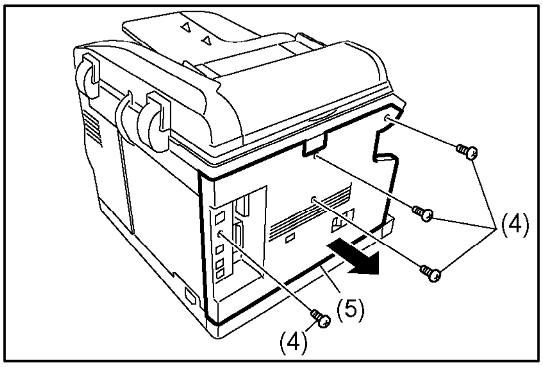
(1) Open the **ADF Unit**.
(2) Clean the **White Guide**, **Scanning Pad** and **Scanning Glasses** with a soft cloth, saturated with isopropyl alcohol.

Note:
Ensure that the Film of the part A is not damaged.

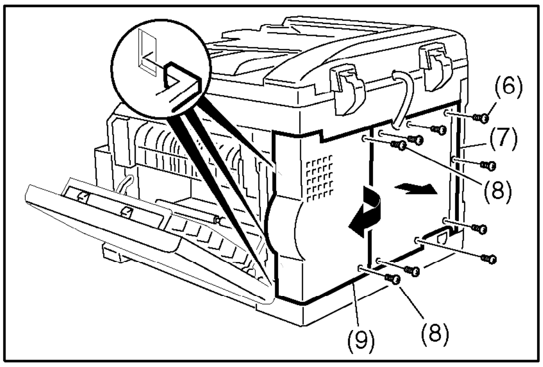
2.2.3. Cover Assembly



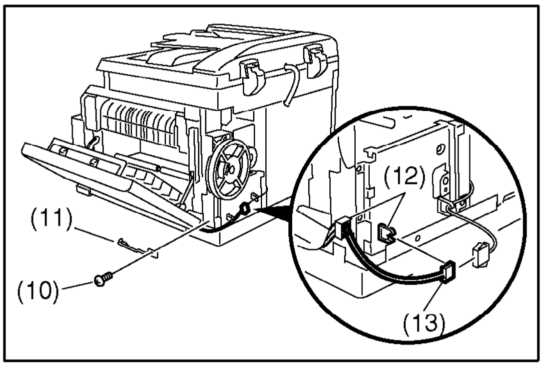
(1) 3 **Screws** (19).
(2) Release the 3 **Latch Hooks** and Remove the **Front Cover** (101).
(3) Remove the **Inner J Cover** (103).



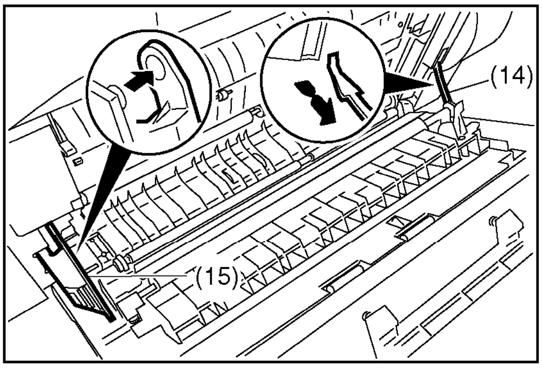
(4) 4 **Silver Screws** (B1).
(5) Remove the **Left Side Cover** (104).



(6) 7 **Screws** (19).
(7) Remove the **Rear Plate** (801).
(8) 2 **Silver Screws** (B1).
(9) Remove the **Rear Cover** (107).

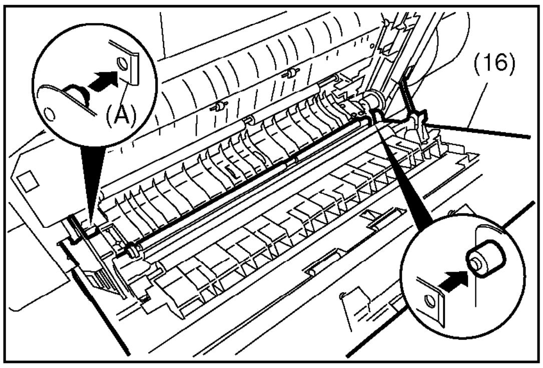


(10) 1 **Screw** (19).
(11) Remove the **Harness Cover** (158).
(12) Release the **Harness** (1845) from the Clamps.
(13) Disconnect the **Connector**.



(14) Remove the **Right Cover Stopper** (625).

(15) Remove the **Front Arm** (657).

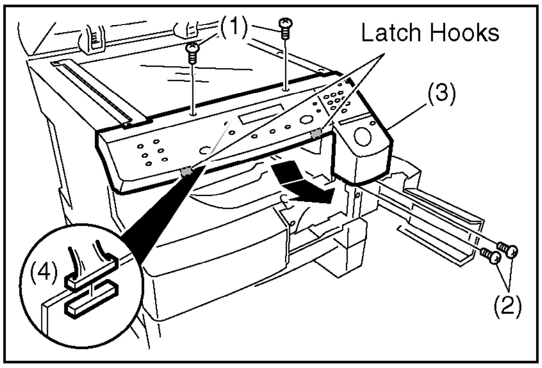


(16) Remove the **Right Cover** (601) Assembly.

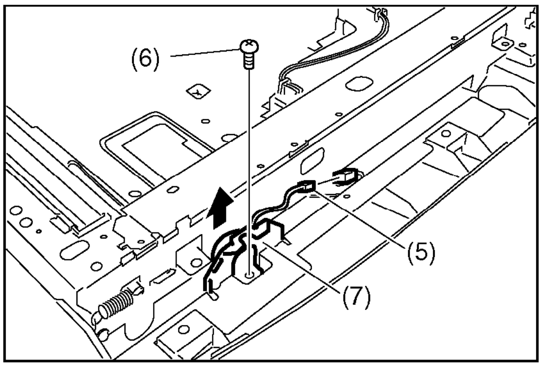
Note:

Remove the front fulcrum (A) and then pushing the **Right Cover** (601) Assembly toward the rear, remove the rear fulcrum.

2.2.4. Control Panel Unit

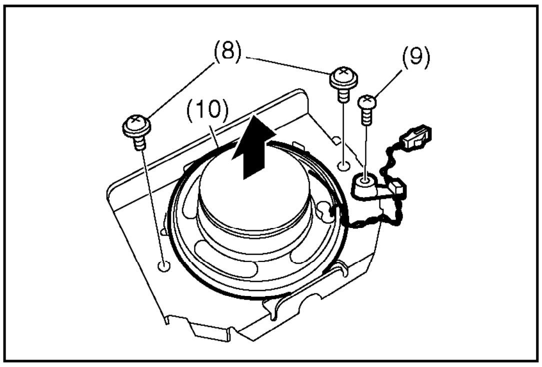


(1) 2 **Silver Screws** (B1).
(2) 2 **Screws** (19).
(3) Release 2 **Latch Hooks** and remove the **Control Panel Assembly**.
(4) Disconnect the **Harness** (1801) on the PNL6 PC Board (CN201).

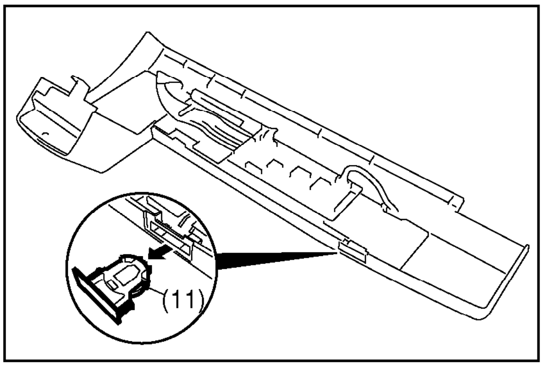


<Following steps (5)~(11) is for DP-1810F only>

(5) Disconnect the **Harness**.
(6) 1 **Screw** (19).
(7) Remove the **Speaker** (125) Assembly.

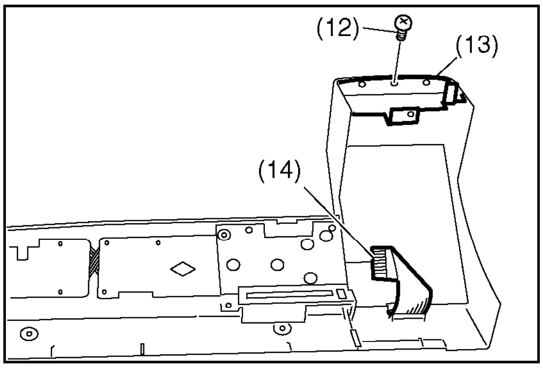


(8) 2 Screws (C2).
(9) 1 **Screw** (19).
(10) Remove the **Speaker** (125).



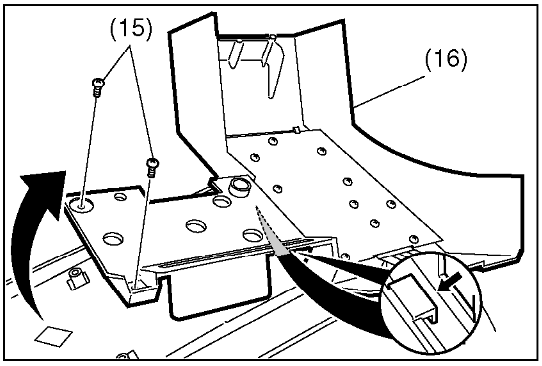
(11) Remove the **Battery Holder** (247).

Note:
When re-installing, you need setting time.

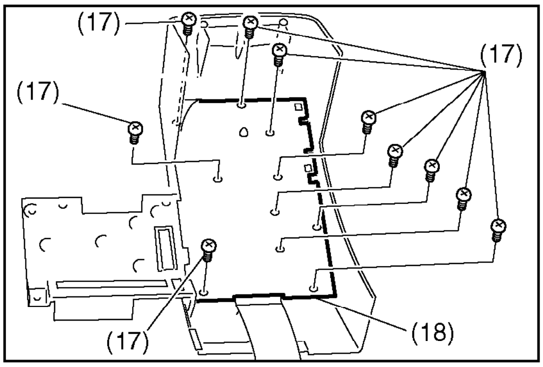


(12) 1 **Screw** (19).
(13) Remove the **Panel Bracket** (233).
(14) Disconnect the **Harness** (1852) on the PNL6 PC Board (CN1).

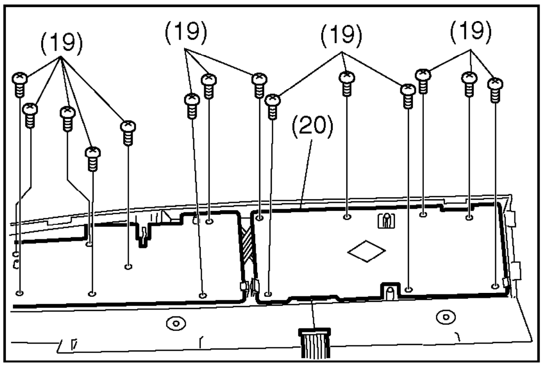
Note:
During re-assembly, reconnect this Harness to PNL6 PC Board prior to securing the board with the screws.



(15) 2 **Screws** (7B).
(16) Release 2 **Latch Hooks** and remove the **LCD Cover** (201) and **Panel Cover** (202).

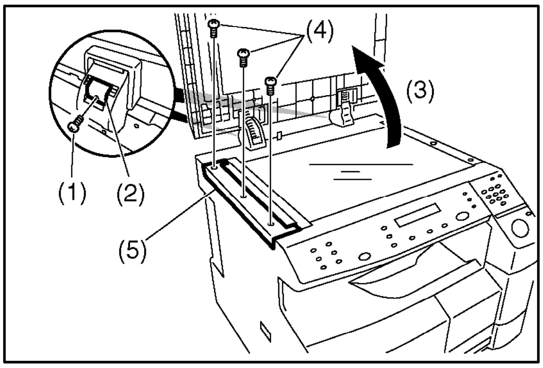


(17) 10 **Screws** (7B).
(18) Remove the **PNL2 PC Board** (1417).

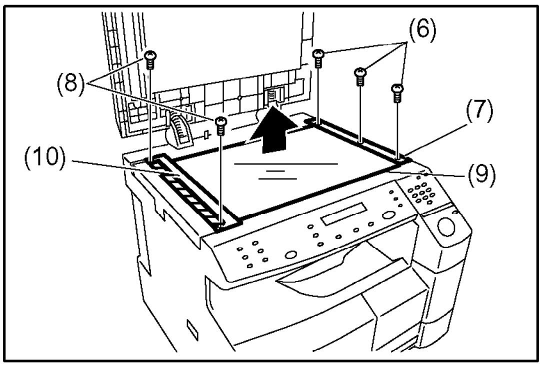


(19) 14 **Screws** (7B).
(20) Remove the **PNL6 PC Board** (1416).

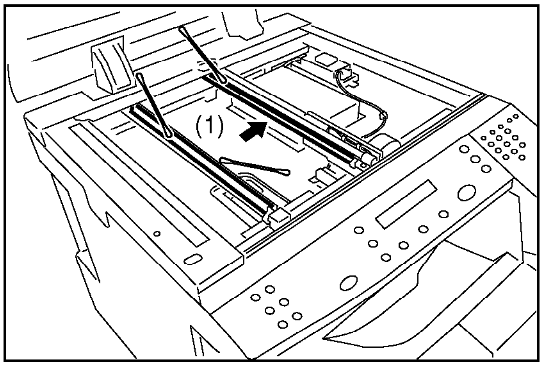
2.2.5. Scanner Unit



(1) 2 **Silver Screws** (B1).
(2) Remove 2 **Angle Plates** (305).
(3) Open the **ADF Unit**.
(4) 3 **Silver Screws** (B1).
(5) Remove the **Left Platen Cover** (113).

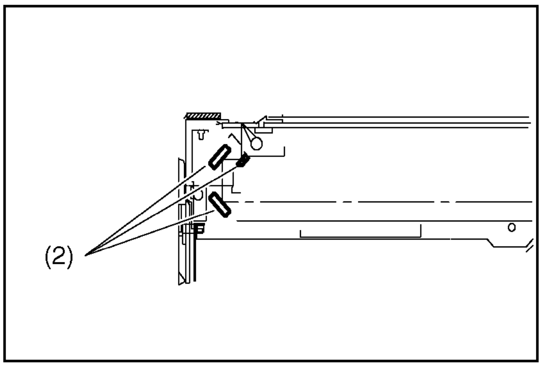


(6) 3 **Silver Screws** (B1).
(7) Remove the **Right Platen Cover** (112).
(8) 2 **Screws** (19).
(9) Remove the **Glass L Assembly** (117).
(10) Remove the **Glass S** (116).

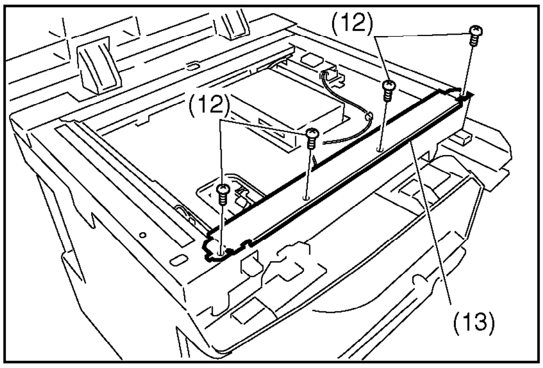


<Cleaning the Mirror>

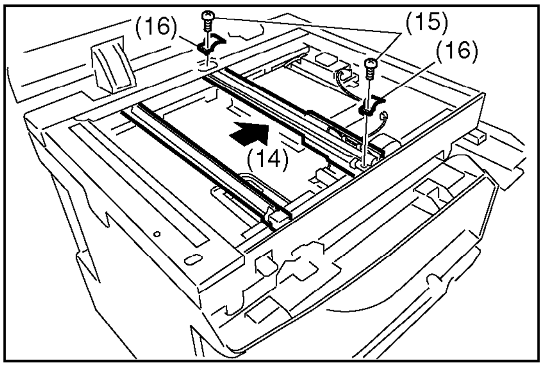
(1) Move the Mirror Unit.



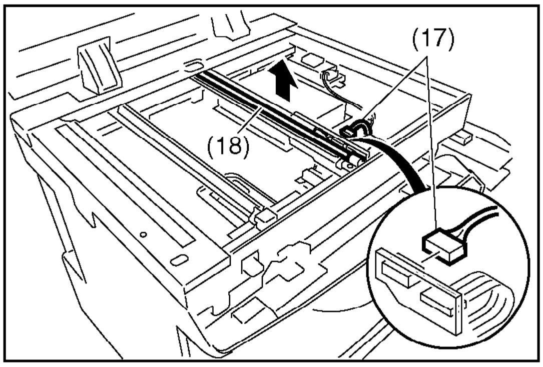
(2) Clean the **Mirror 1** (551) and **Mirror 2** (552) with a soft cloth, saturated with isopropyl alcohol.



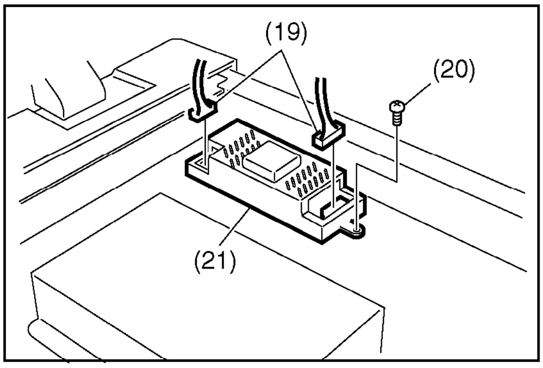
(11) Remove the **Control Panel Unit** (Refer to 2.2.4.).
(12) 5 **Screws** (19).
(13) Remove the **F/R Scanner Frame** (532).



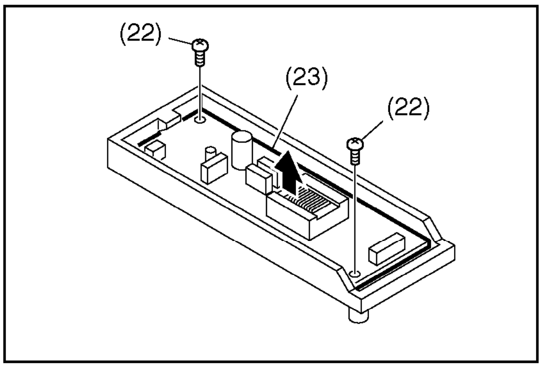
(14) Move the **Lamp Base Bracket**.
(15) 2 **Screws** (19).
(16) Remove 2 **Lamp Plate Springs** (524).



(17) Disconnect **Harness** on the LFB PC Board.
(18) Remove the **Scanner Lamp** (501).

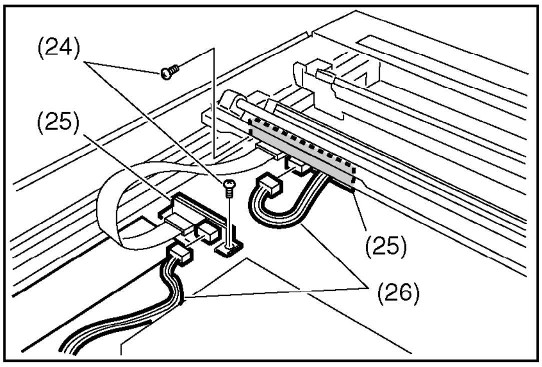


(19) Disconnect 2 **Harnesses** (1805, 1851) on the Inverter PC Board (CN1 and CN2).
(20) 1 **Screw** (19).
(21) Remove the **Inverter Upper Cover** (508).



(22) 2 **Screws** (19).

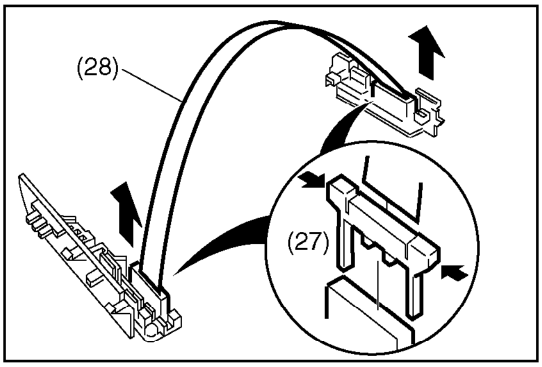
(23) Remove the **Inverter PC Board** (564).



(24) 2 **Screws** (19).

(25) Remove **LFB PC Board** (1414) Assembly and **LFB PC Board** (1414).

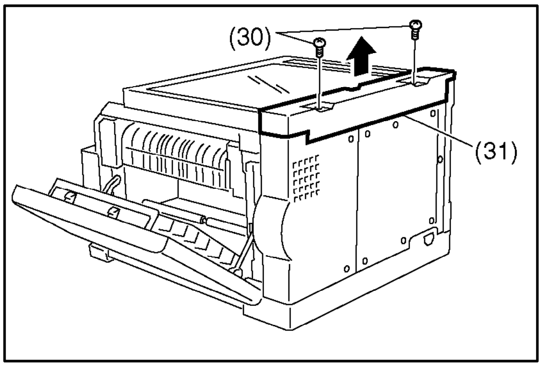
(26) Disconnect the **Harness** on the LFB PC Board.



(27) Remove 2 **Sliders** on the Connectors.

(28) Remove the **FPC Cable** (260).

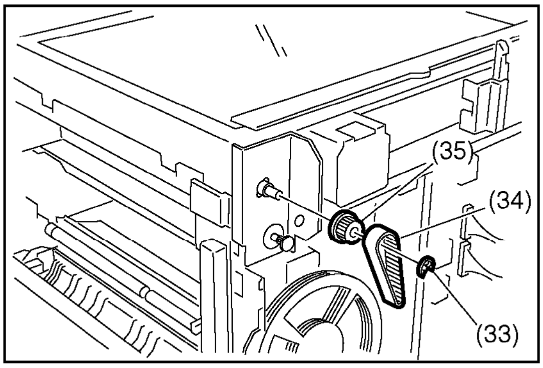
Note:
The Sliders must be re-installed when reassembling.



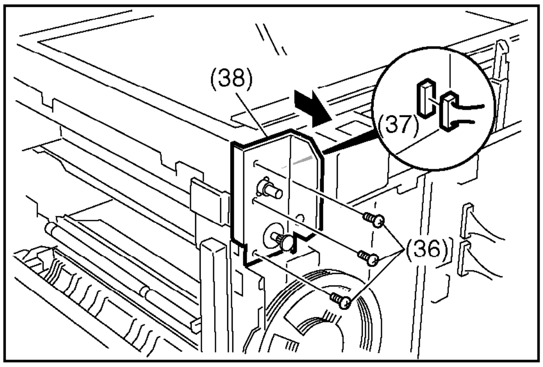
(29) Remove the ADF Unit. (Refer to 2.2.2.)

(30) 2 **Silver Screws** (B1).

(31) Remove the **Rear Platen Cover** (114).

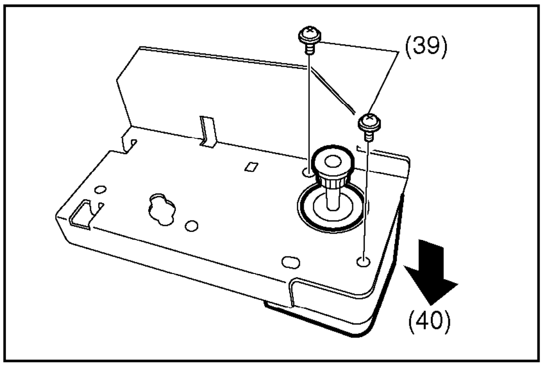


(32) Remove the Rear Cover and Rear Plate. (Refer to 2.2.3.)
(33) Remove the **E-Ring** (5Y).
(34) Remove the **Synchronous Belt** (118).
(35) Remove the **MXL34 Pulley** (119).

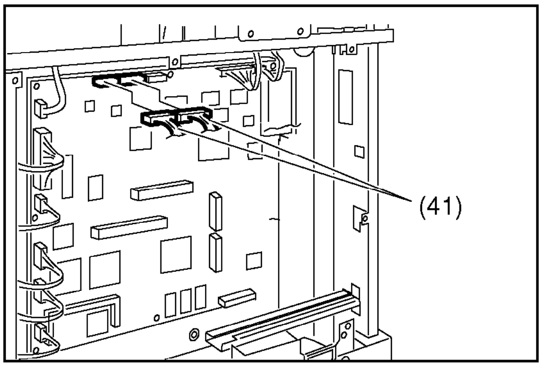


(36) 3 **Screws** (19).
(37) Disconnect the **Harness** (1807) on the Scanning Motor.
(38) Remove the **Scanning Motor Bracket** (120) Assembly.

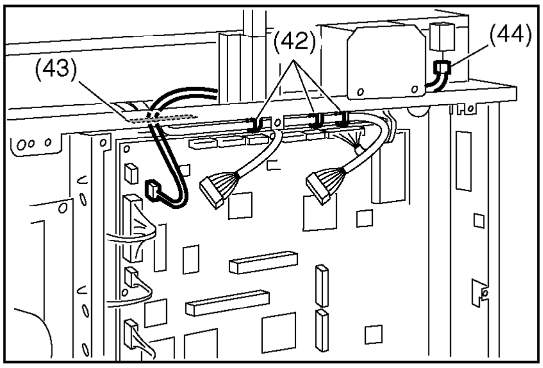
Note:
When re-installing the Motor Bracket, tighten the upper screw first.



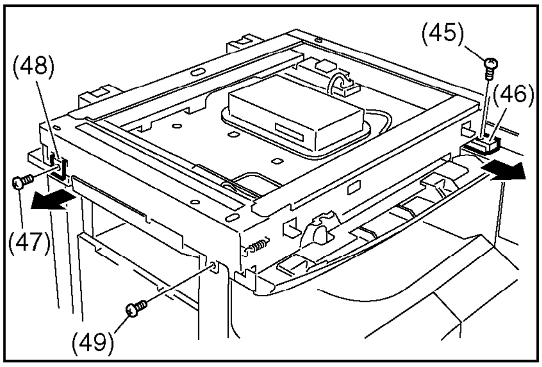
(39) 2 **Screws** (36).
(40) Remove the **Scanning Motor** (131).



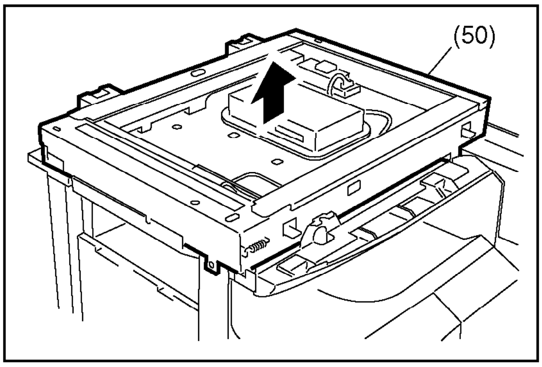
(41) Disconnect the **Harness** (1831) on the SC PC Board (CN106 and CN120).



(42) Release the **Harnesses** from the Clamps.
(43) Disconnect the **Harness** (1805).
(44) Disconnect the **Harness** (1803).

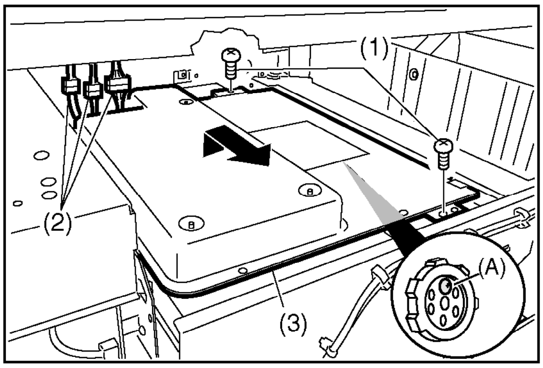


(45) 1 **Screw** (19).
(46) Remove the **Front Platen Frame Bracket** (127).
(47) 1 **Screw** (19).
(48) Remove the **Rear Platen Frame Bracket** (128).
(49) 1 **Screw** (19).



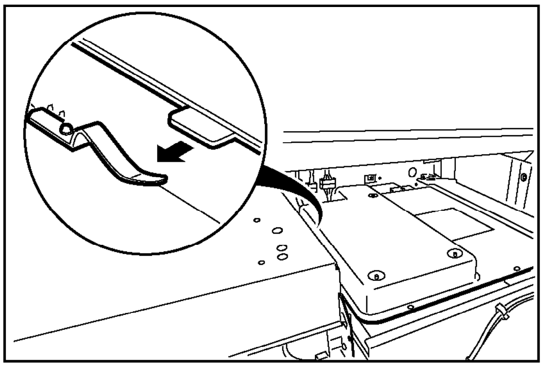
(50) Remove the **Scanner Unit**.

2.2.6. LSU, Fan, LVPS, HTC PC Board

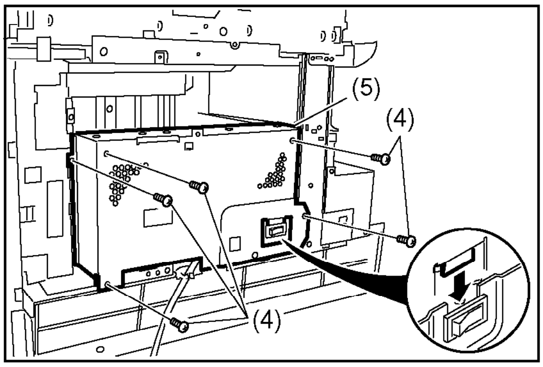


(1) 2 **Screws** (19).
(2) Disconnect 2 **Harnesses** (1809, 1824).
(3 connectors)
(3) Remove the **LSU** (710).

Note:
Do not touch the **RED Screw (A)** of LSU Damper as illustrated.

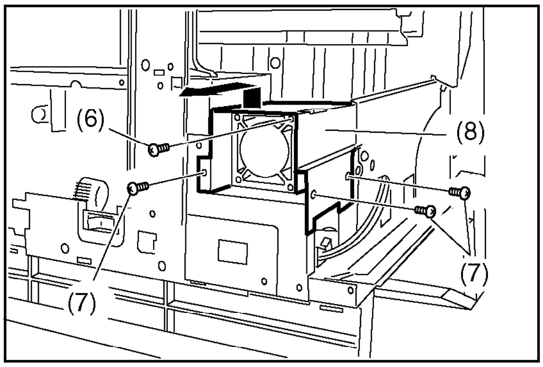


Note:
When re-installing the LSU, put the latch under the Plate Spring.

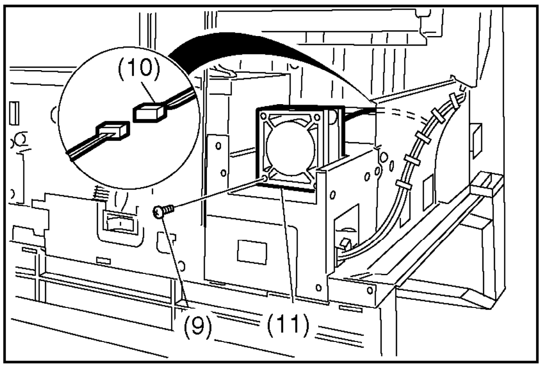


(4) 5 **Screws** (19).
(5) Remove the **LVPS Plate** (804) Assembly.

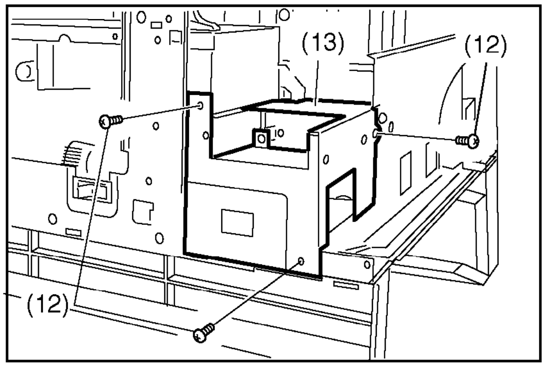
Note:
When re-installing the **LVPS Plate** (804) Assembly, make sure that the latch is not over the Power SW.



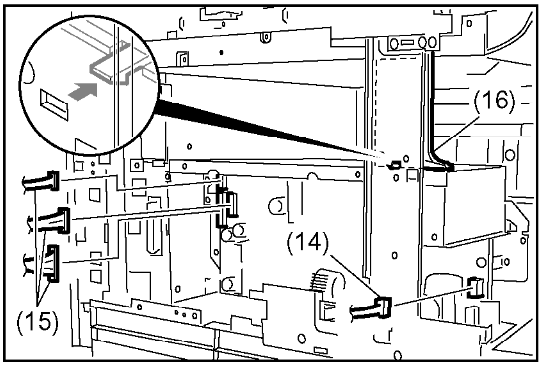
(6) 1 **Screw** (E5).
(7) 3 **Screws** (19).
(8) Remove the **Upper Fan Bracket** (806).



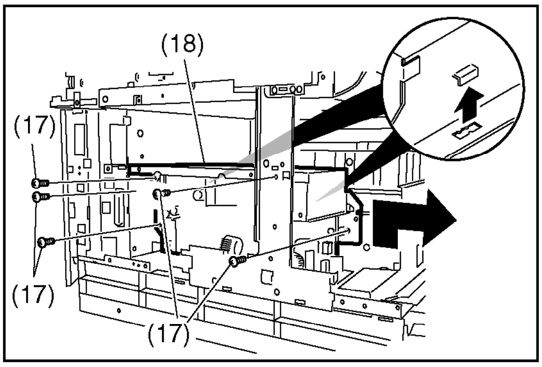
(9) 1 **Screw** (E5).
(10) Disconnect the **Harness** (1814).
(11) Remove the **Fan** (808).



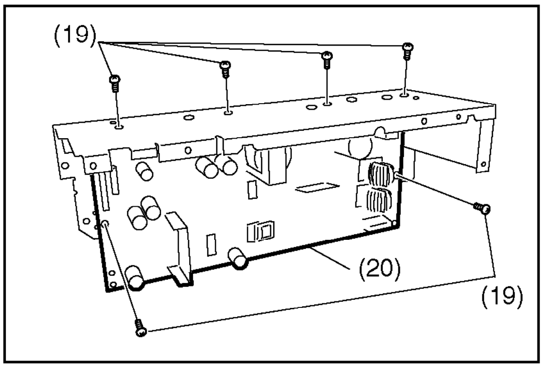
(12) 3 **Screws** (19).
(13) Remove the **Lower Fan Bracket** (805).



(14) Disconnect the **Harness** (1830) on the LVPS (CN60).
(15) Disconnect 2 **Harnesses** (1812, 1822) on the LVPS (CN61 and CN62).
(16) Remove the **Inner FL Cover** (110).



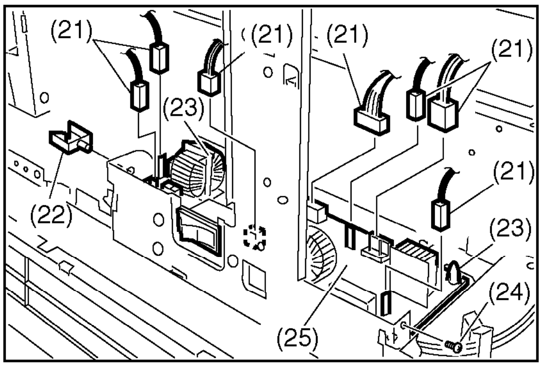
(17) 5 **Screws** (19).
(18) Remove the **LVPS Assembly**.



(19) 6 **Screws** (19).

(20) Remove the **LVPS** (1404).

Note:
When re-installing the LVPS, install the upper 4 Screws first and then the remaining 2 Screws.



(21) Disconnect all **Harnesses** on the HTC PC Board (CN760, CN761, CN762, CN764, CN765, CN766 and CN767).

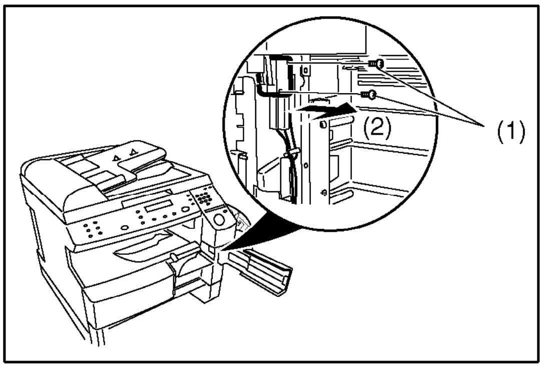
(22) Remove the **Clamp** (730).

(23) Release the **Locking Support C** (728).

(24) 1 **Screw** (19).

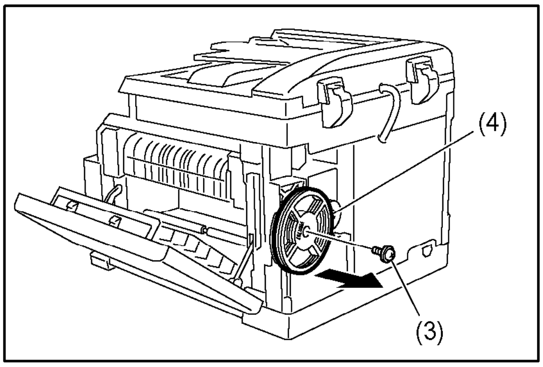
(25) Remove the **HTC PC Board** (1407).

2.2.7. ILS, Fan



(1) 2 **Screws** (E6).

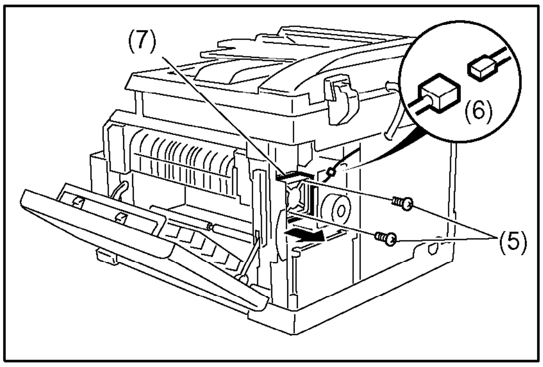
(2) Remove 2 **Micro Switch** (813) and Disconnect 2 **Harnesses** (1823).



(3) 1 **Screw** (24).

(4) Remove the 3 **Fly Wheels** (1101).

Note:
When re-installing the Fly Wheels, make sure that the Imprinted Marks are facing outward.

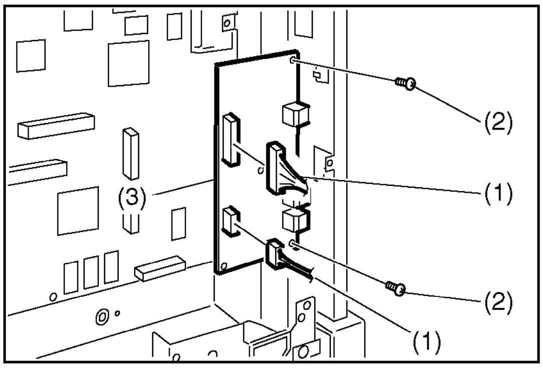


(5) 2 **Screws** (E5).

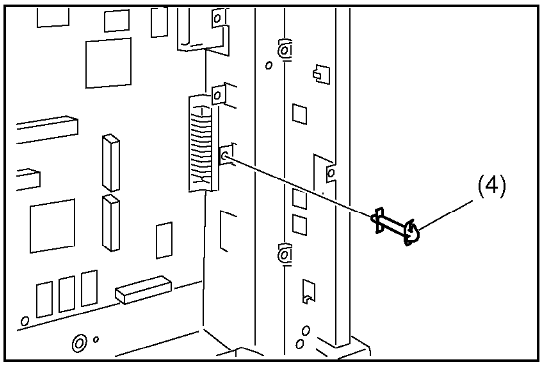
(6) Disconnect the **Harness** (1820).

(7) Remove the **Fan** (1149).

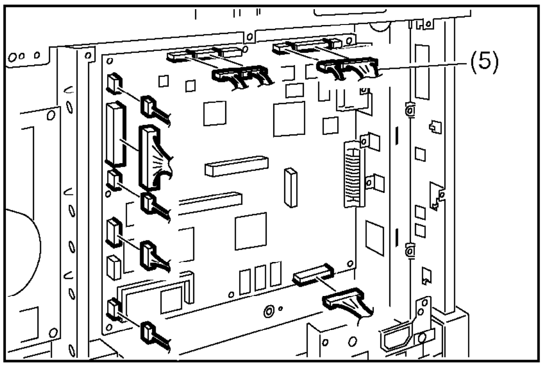
2.2.8. SC PC Board, LPC3 PC Board, MJR PC Board (For DP-1810F Only)



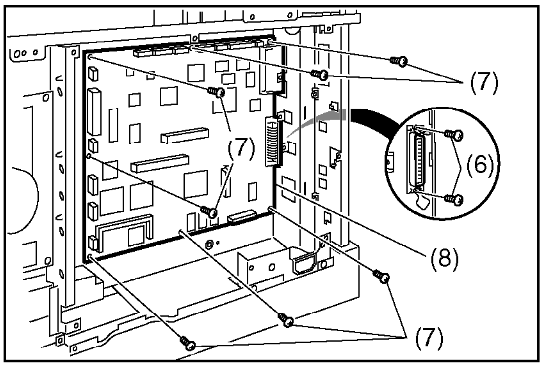
(1) Disconnect 2 **Harnesses** (1866, 1867)
(2) 2 **Screws** (19).
(3) Remove the **MJR PC Board** (1421).



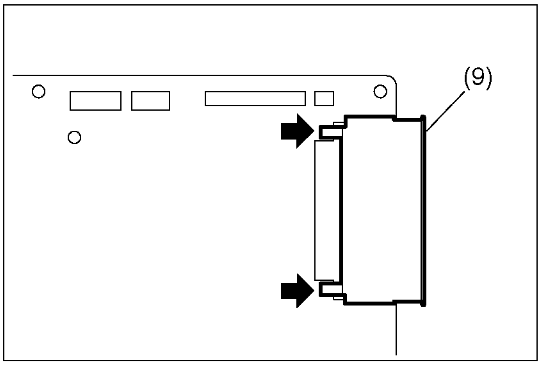
(4) Remove the **Locking Spacer** (824).



(5) Disconnect all **Harnesses** on the SC PC Board (1401).

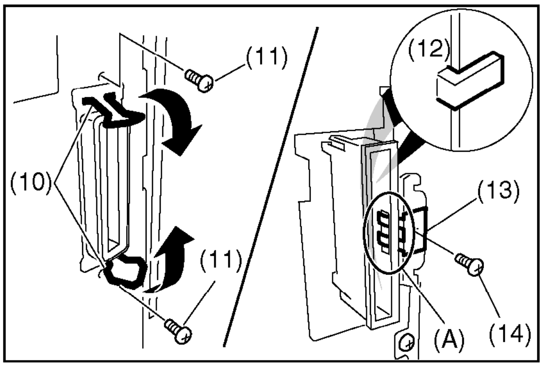


(6) 2 **Screws** (20).
(7) 7 **Screws** (19).
(8) Remove the **SC PC Board** (1401).



Note:
When re-installing the SC PC Board.

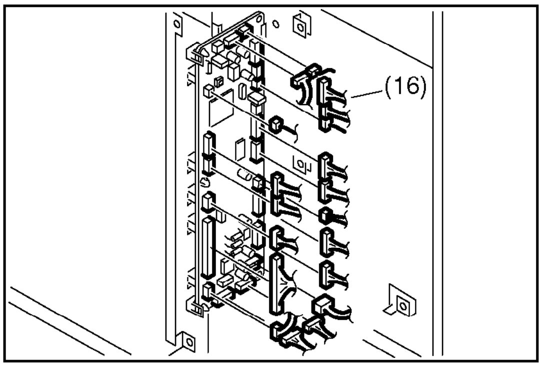
(9) Release 2 Latch Hooks and remove the **Card Guide** (816).



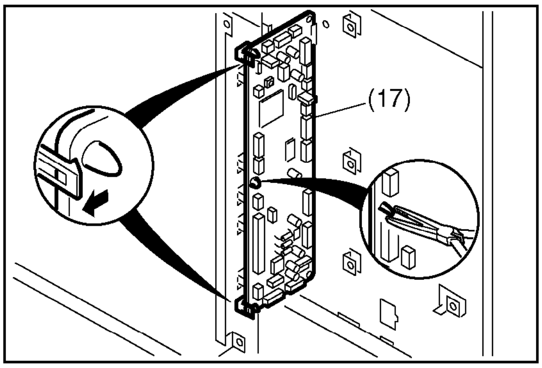
(10) Move 2 **Lock Springs** as illustrated.
(11) 2 **Screws** (20).
(12) Reinstall the **Card Guide** (816) as illustrated.
(13) Position the **Memory Ground Plate** (721) as illustrated.

Note:
Make sure that the leg of the Memory Ground Plate is properly installed into the hole of the Card Guide as illustrated in (A).

(14) 1 **Screw** (19).
(15) 7 **Screws** (19).

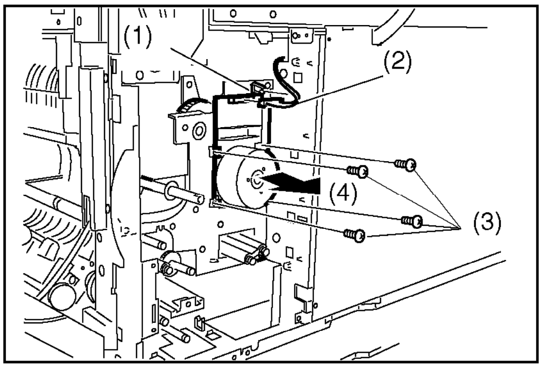


(16) Disconnect all **Harnesses** on the LPC3 PC Board.



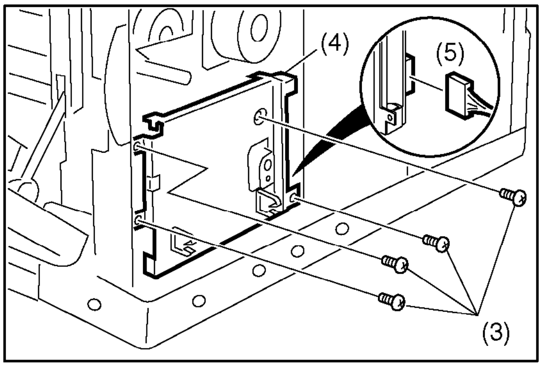
(17) Release the **Support** and remove the **LPC3 PC Board** (1402).

2.2.9. Drive Motor, HVPS, Solenoid, Drive Unit



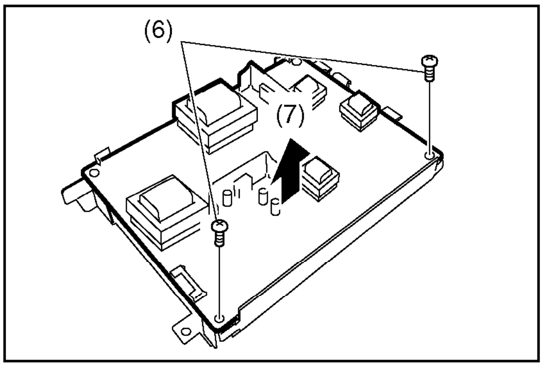
<Drive Motor>

(1) Release the **Harness** (1818) from the Clamp.
(2) Disconnect the **Harness** (1818) on the Drive Motor Assembly.
(3) 4 **Screws** (19).
(4) Remove the **Drive Motor**.

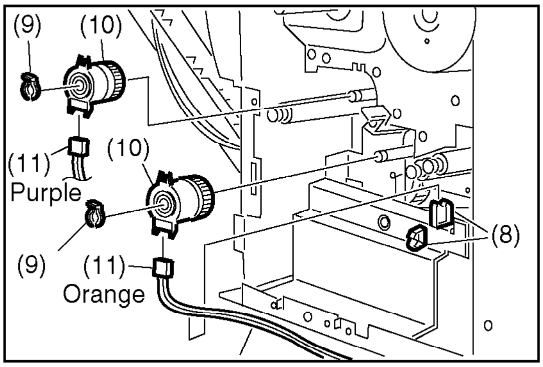


<HVPS, Solenoid and Drive Unit>

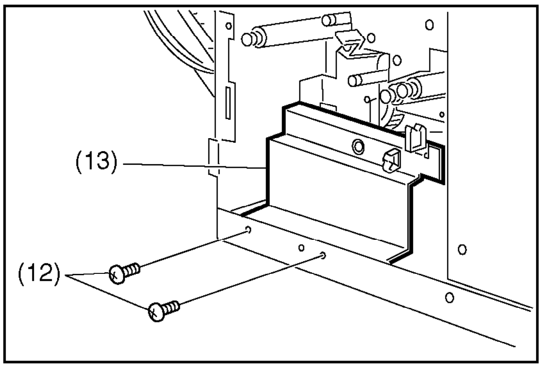
(1) Remove 3 Fly Wheels. (Refer to 2.2.7.)
(2) Remove the Harness from the Clamps. (Refer to 2.2.3.)
(3) 4 **Screws** (19).
(4) Remove the **HVPS Assembly**.
(5) Disconnect the **Harness** (1825) on the HVPS (CN800).



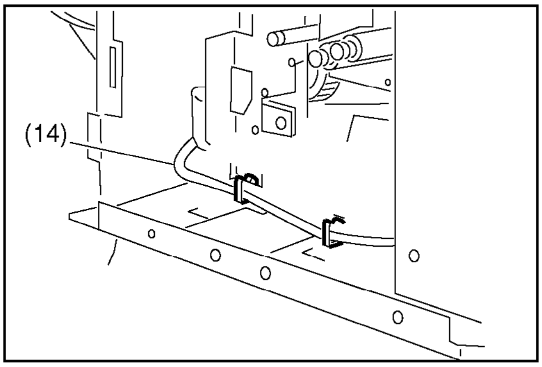
(6) 2 **Screws** (19).
(7) Remove the **HVPS** (1403).



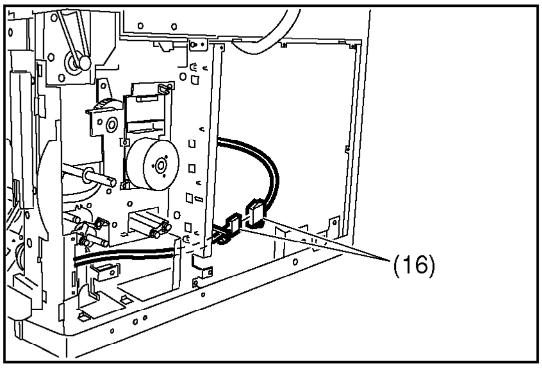
(8) Release the **Harness** (1826) from the Clamp.
(9) Remove 2 **Snap Rings** (B9).
(10) Remove 2 **Clutches** (1141, 1224).
(11) Disconnect the **Harnesses** (1826). (2 connectors)



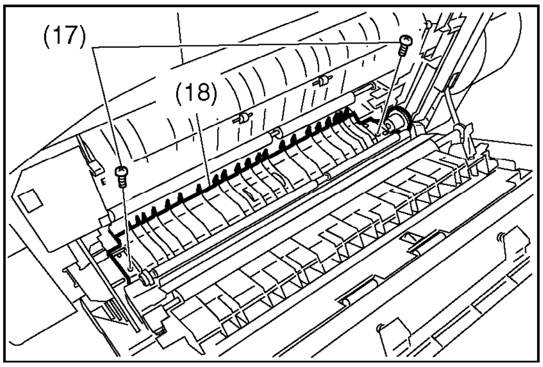
(12) 2 **Screws** (19).
(13) Remove the **CST Cover** (716) Assembly.



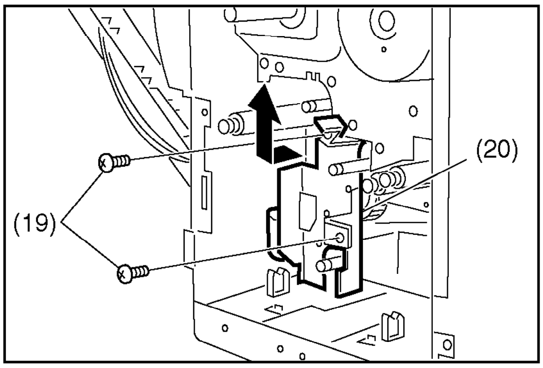
(14) Release the Solenoid **Harness** from 2 Clamps.



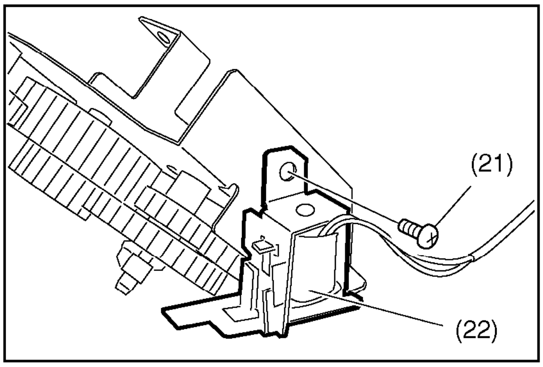
(15) Remove the Rear Plate. (Refer to 2.2.3.)
(16) Release the Solenoid **Harness** from Clamp and Disconnect it.



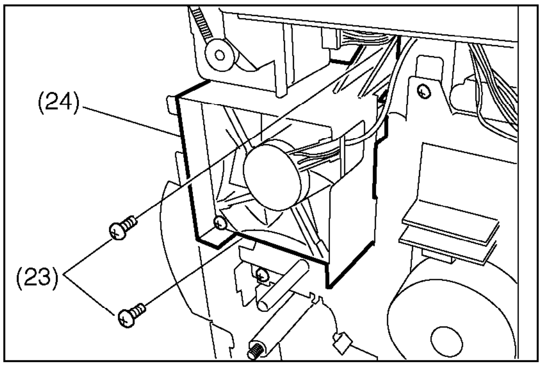
(17) 2 **Screws** (19).
(18) Remove the **Paper Feed Roller** Assembly.



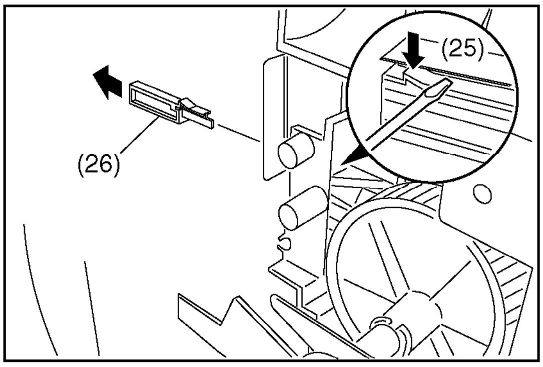
(19) 2 **Screws** (19).
(20) Remove the **Solenoid** Assembly.



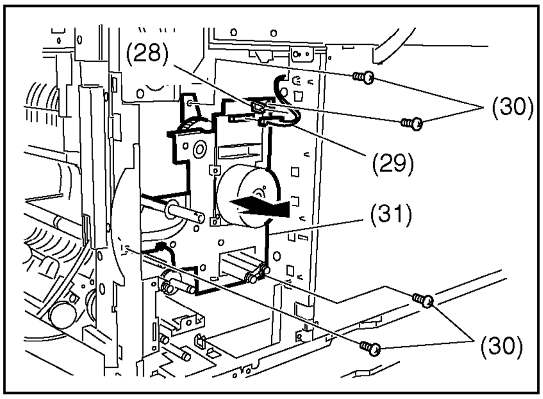
(21) 1 **Screw** (19).
(22) Remove the **Solenoid** (1102).



(23) 2 **Screws** (19).
(24) Remove the **Fan Assembly**.



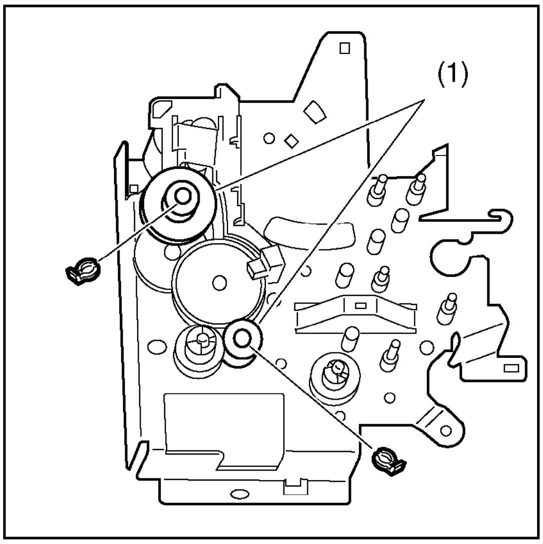
(25) Push down the Latch Hook with a Straight Edge Screwdriver.
(26) Remove the **Fuser Actuator 2** (1116).



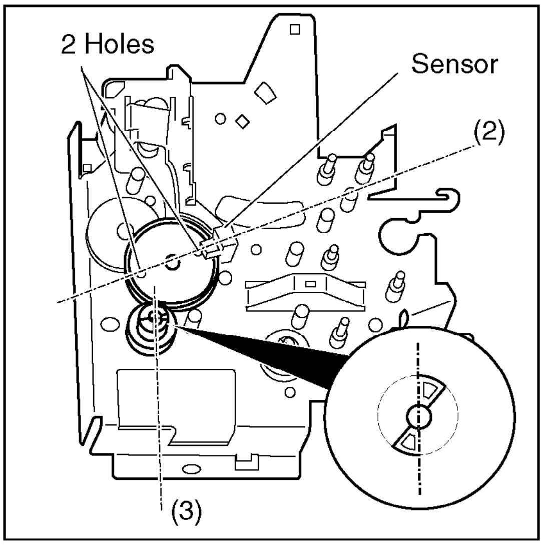
(27) Disconnect the **Harnesses** (1229, 1856) on the LPC3 PC Board.
(28) Release the **Harness** (1818) from the Clamp.
(29) Disconnect the **Harness** (1818) on the Drive Motor Assembly.
(30) 4 **Screws** (19).
(31) Remove the **Drive Unit**.

Caution:
Do not remove the Gears from the Drive Unit.
If dis-assembled or the Alignment is necessary, be careful to assemble the Gears by following steps.

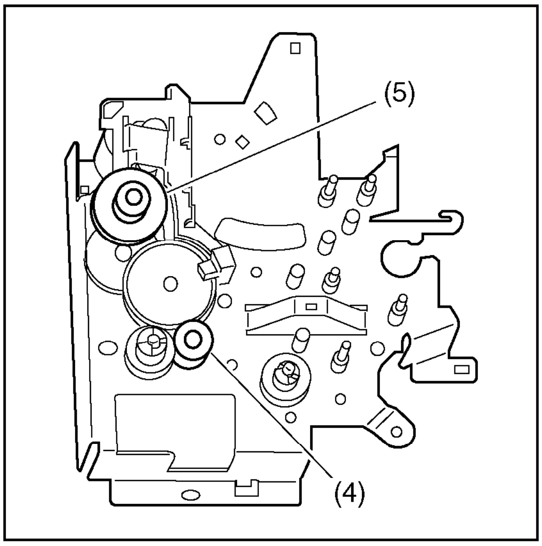
<Toner Bottle Drive Gear Adjustment>



(1) Remove 2 **Snap Rings** and 2 **Gears** as illustrated.

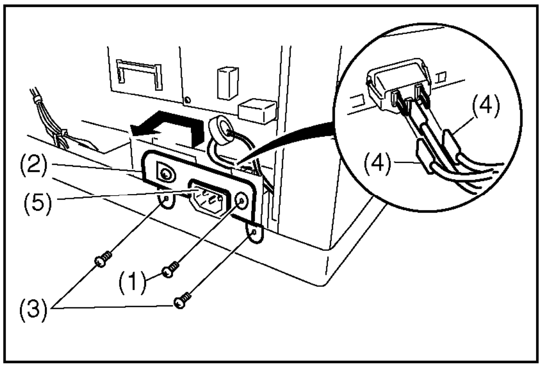


(2) Align 2 Gear Holes with the Sensor.
(3) Align the Joint Gear to the Vertical Position as illustrated.

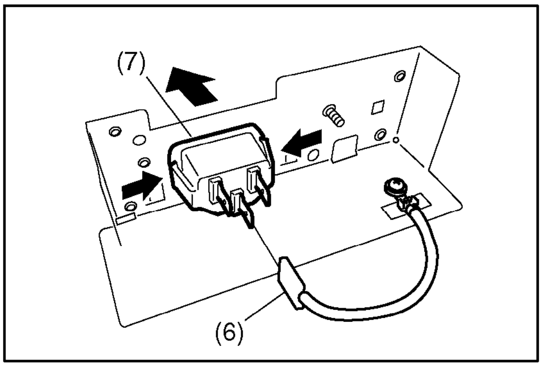


(4) Install the **Gear** and the **Snap Ring**.
(5) Install the other **Gear** and **Snap Ring**.

2.2.10. AC Inlet

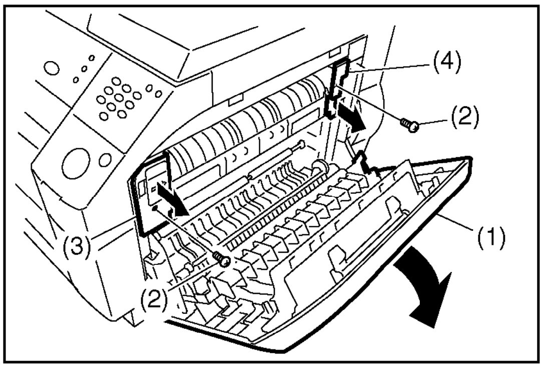


(1) 1 **Silver Screw** (B1).
(2) Remove the **Inlet Cover** (751).
(3) 2 **Screws** (35).
(4) Disconnect 2 **Harnesses** (1828).
(5) Remove the **AC Inlet** Assembly.

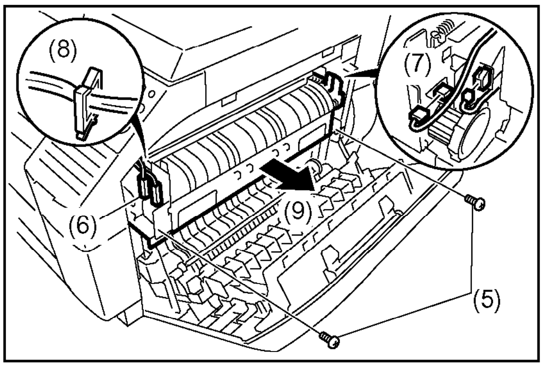


(6) Disconnect the **Harness** (1842).
(7) Remove the **AC Inlet** (807).

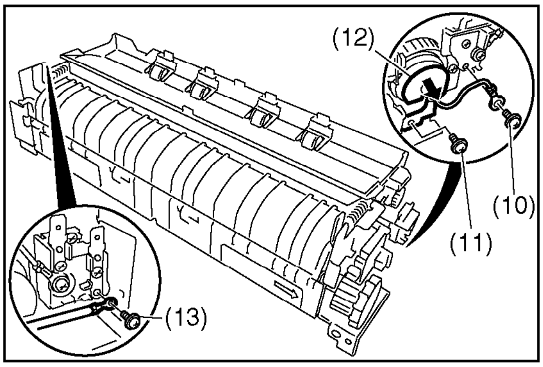
2.2.11. Fuser Unit



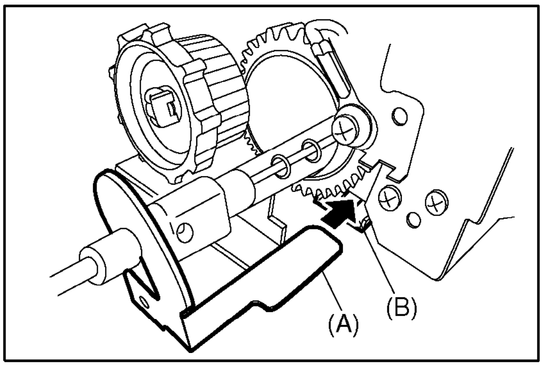
(1) Open the **Right Cover** (601) Assembly.
(2) 2 **Screws** (19).
(3) Remove the **Front Connector Cover** (714).
(4) Remove the **Rear Connector Cover** (713).



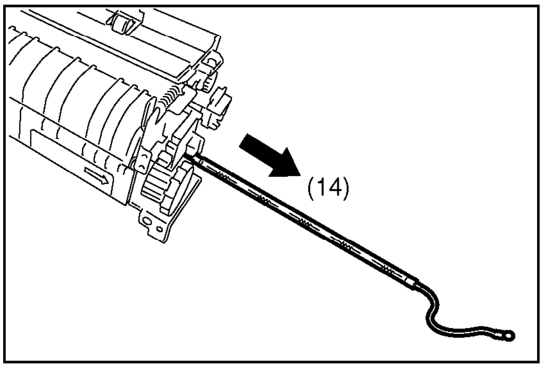
(5) 2 **Screws** (4N).
(6) Remove 2 **Harnesses** (1829).
(7) Remove 2 **Harnesses** (1813).
(8) Release 2 **Harnesses** (1829) from the Clamp.
(9) Remove the **Fuser Unit**.



(10) 1 **Screw** (23).
(11) 1 **Screw** (19).
(12) Remove the **Lamp Holder** (925).
(13) 1 **Screw** (23). (Opposite side)

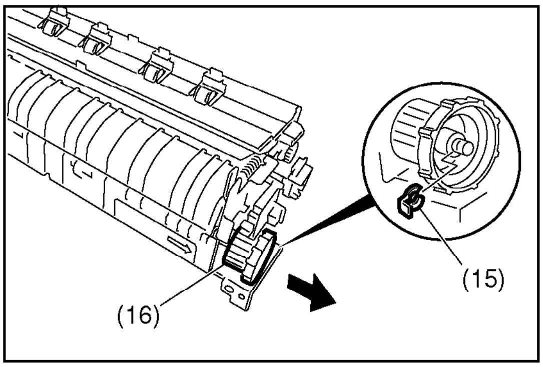


Note:
When re-installing the **Lamp Holder** (925), insert the Lamp Holder's Leg (A) into the Guide (B).

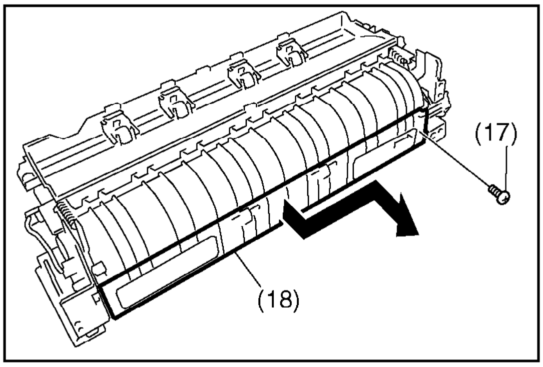


(14) Remove the **Fuser Lamp** (924).

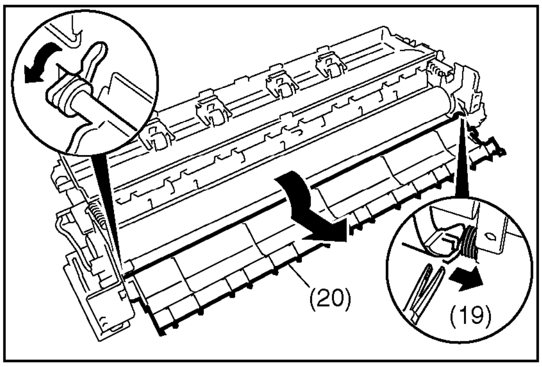
Note:
Do not Touch the glass portion of the Fuser Lamp with bare hands. Grease from finger prints will shorten its life cycle, use isopropyl alcohol to clean finger prints.



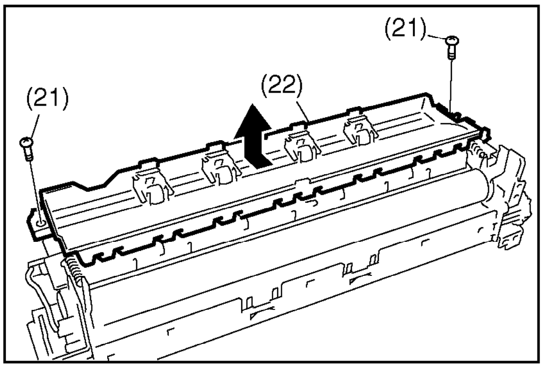
(15) Remove the **Snap Ring** (B9).
(16) Remove the **Jam Release Knob** (934).



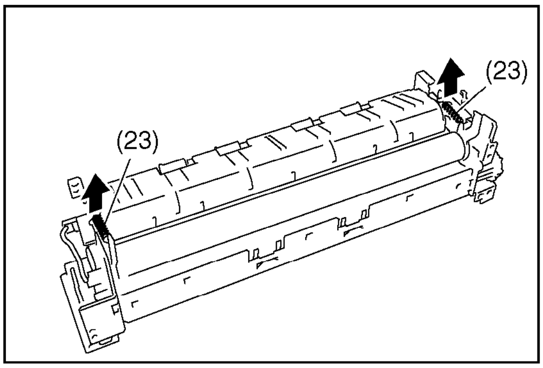
(17) 1 **Screw** (19).
(18) Remove the **Right Side Cover** (904).



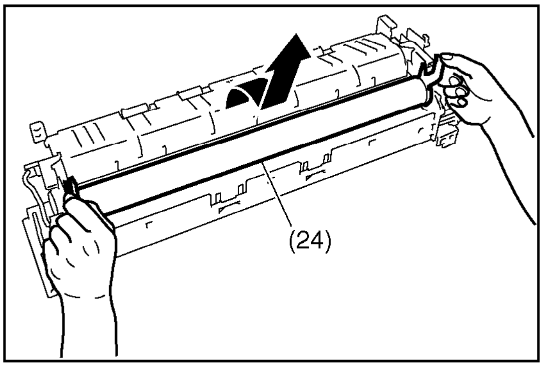
(19) Release the **Jam Release Guide Spring** (926).
(20) Remove the **Jam Release Guide** (903).



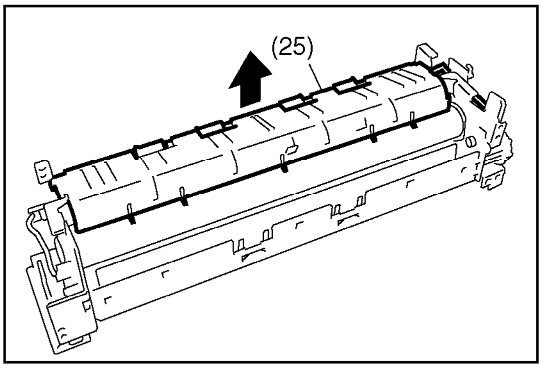
(21) 2 **Screws** (G5).
(22) Remove the **Exit Upper Guide** (901).



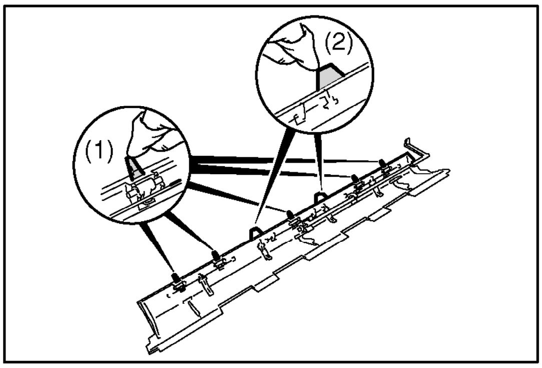
(23) Remove 2 **Pressure Springs** (952).



(24) Remove the **Pressure Roller** (914).

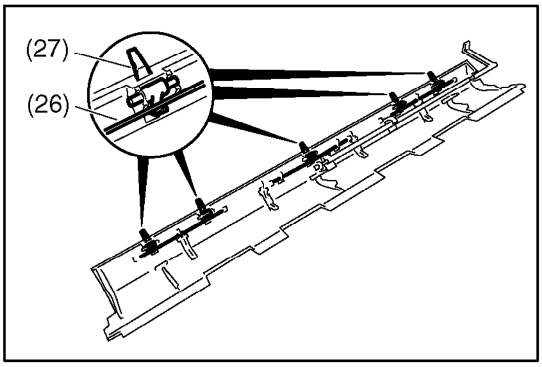


(25) Remove the **Exit Lower Guide** (902).

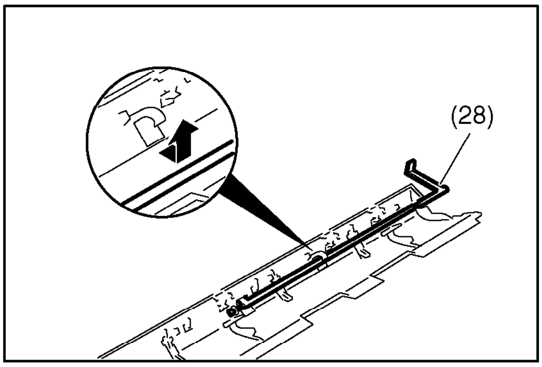


<Cleaning Separator>

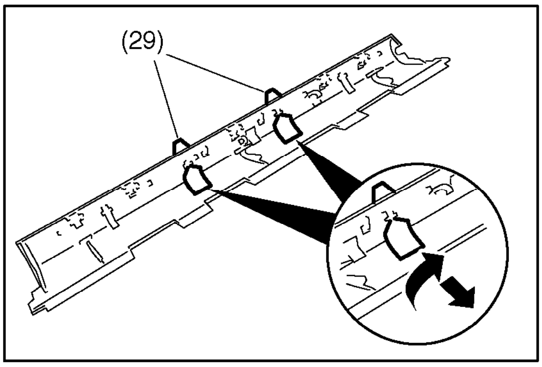
(1) Clean the Separators with a soft cloth, saturated with isopropyl alcohol.
(2) Clean 2 Separation HR Sheets with a soft cloth, saturated with isopropyl alcohol.



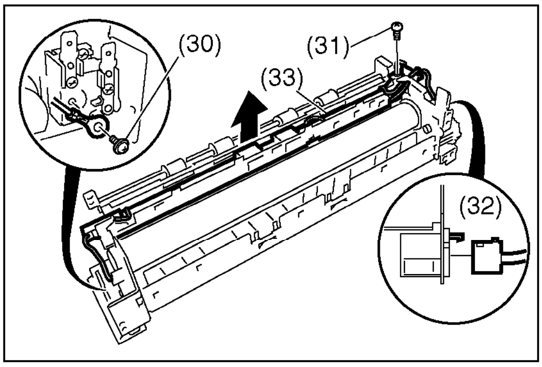
(26) Remove 3 **Separator Springs** (953).
(27) Remove 5 **Separators** (923).



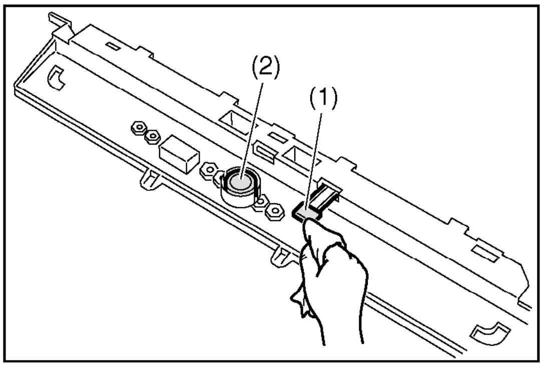
(28) Remove the **Exit Lever** (921).



(29) Remove 2 **Separation HR Sheets** (970).

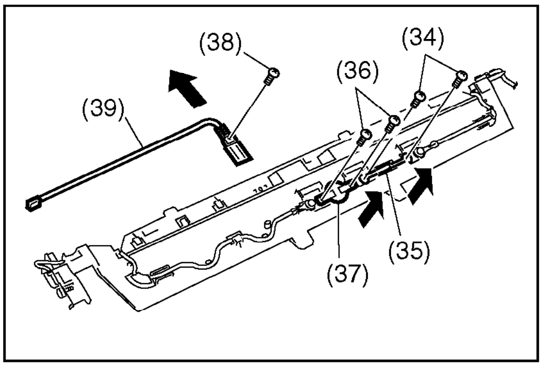


(30) 1 **Screw** (23).
(31) 1 **Screw** (19).
(32) Release the **Stopper** and disconnect the **Harness**.
(33) Remove the **Harness Guide** (906).

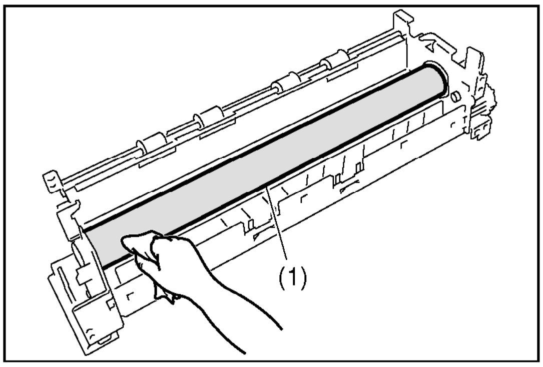


<Cleaning Thermistor Assembly, Thermostat>

(1) Clean the **Thermistor Assembly** (944) with a soft cloth, saturated with isopropyl alcohol.
(2) Clean the **Thermostat** (947) with a soft cloth, saturated with isopropyl alcohol.

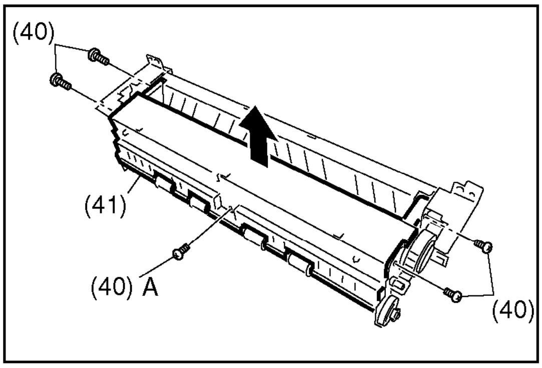


(34) 2 **Screws** (23).
(35) Remove the **Thermal Fuse** (948).
(36) 2 **Screws** (23).
(37) Remove the **Thermostat** (947).
(38) 1 **Screw** (1Y).
(39) Remove the **Thermistor Assembly** (944).



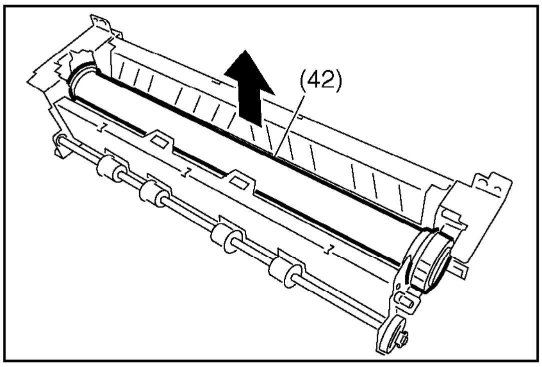
<Cleaning the Fuser Roller>

(1) Clean the Fuser Roller (913) with a soft cloth, saturated with isopropyl alcohol.

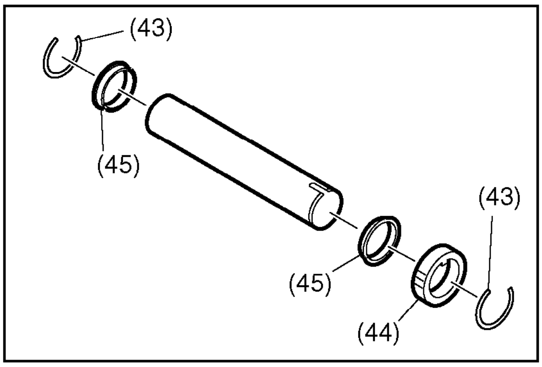


(40) 5 **Screws** (19).
(41) Remove the **Roller Bracket** (909).

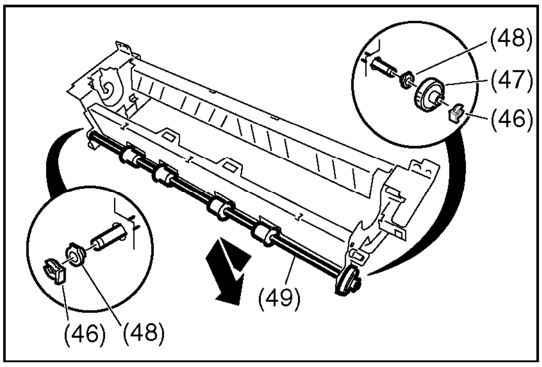
Note:
When re-installing, install the Screw A first, then the remaining 4 Screws.



(42) Remove the **Fuser Roller** (913).

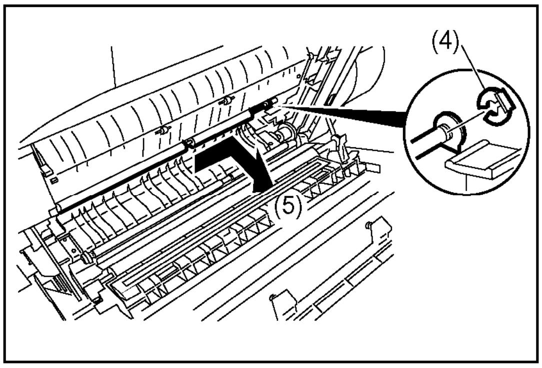


(43) Remove 2 **C-Rings** (938).
(44) Remove the **E39 D Gear** (935).
(45) Remove 2 **P30L6.8 Bushings** (937).

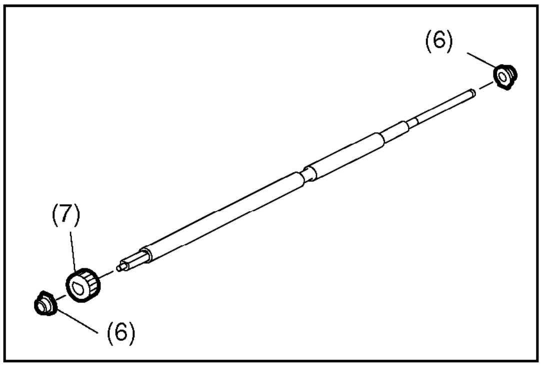


(46) Remove 2 **Snap Rings** (B9).
(47) Remove the **E24 D Gear** (936).
(48) Remove 2 **P6L5 Conductor Bushings** (939).
(49) Remove the **Exit Roller** (912).

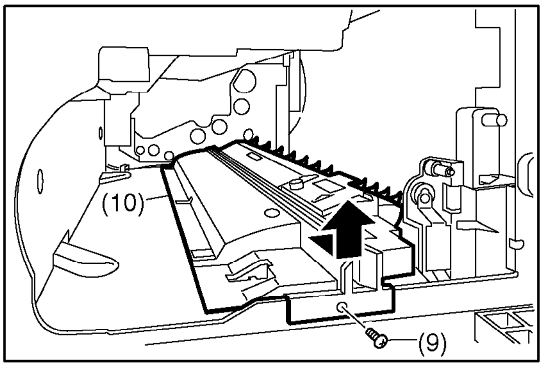
2.2.12. Registration Roller, Toner Sensor



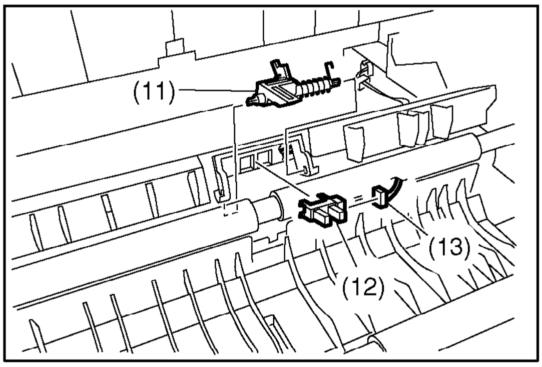
(1) Remove the Rear Cover. (Refer to 2.2.3.)
(2) Remove 3 Fly Wheels. (Refer to 2.2.7.)
(3) Remove the HVPS, Snap Ring and Clutch. (Refer to 2.2.9.)
(4) Remove the **Snap Ring** (B9).
(5) Remove the **Registration Roller** (1162).



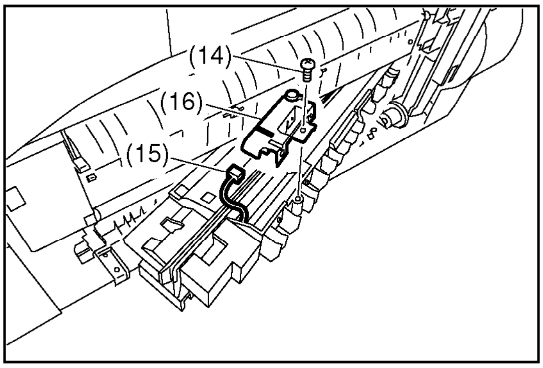
(6) Remove 2 **Bushings** (939, 1144).
(7) Remove the **D17 D Gear** (1143).



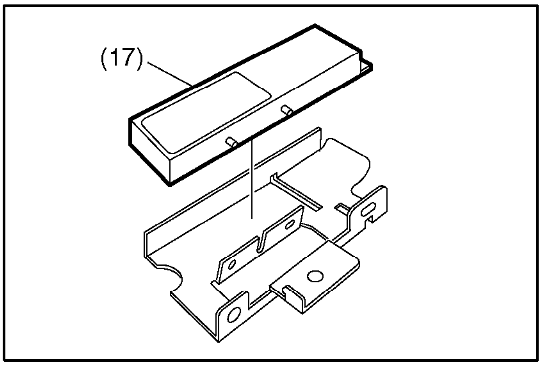
(8) Remove the Front Cover and Right Cover Assembly. (Refer to 2.2.3.)
(9) 1 **Screw** (19).
(10) Remove the **Process Unit Guide** (1142).



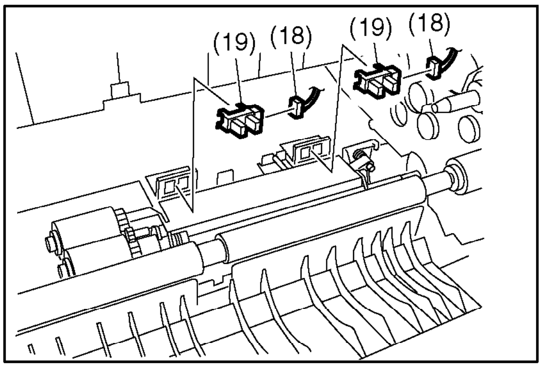
(11) Remove the **Registration Actuator** (1146).
(12) Remove the **Photo Sensor** (604).
(13) Remove the **Harness** (1827).



(14) 1 **Screw** (19).
(15) Disconnect the **Harness** (1827).
(16) Remove the **Toner Sensor Spring** (1148).

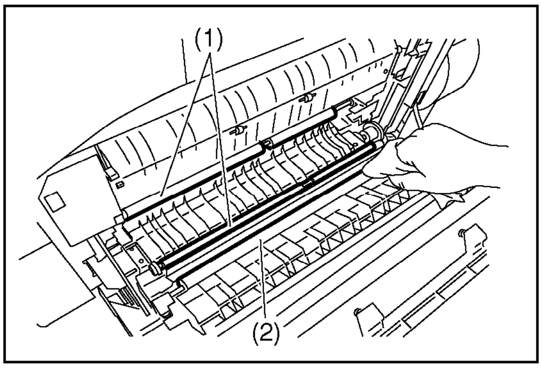


(17) Remove the **Toner Sensor** (1147).



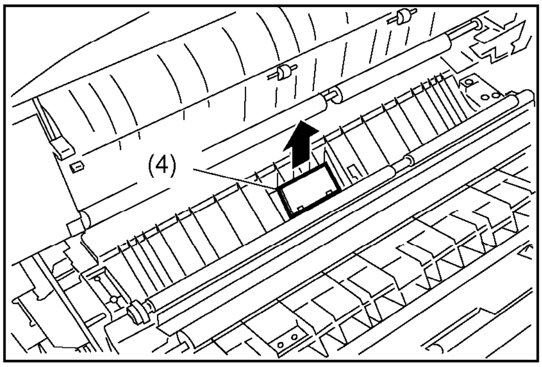
(18) Disconnect the **Harness** (1827).
(19) Remove 2 **Photo Sensors** (604).

2.2.13. Bias Transfer Roller



<Cleaning the Registration Roller, Duplex Transfer Roller and Pinch Roller>

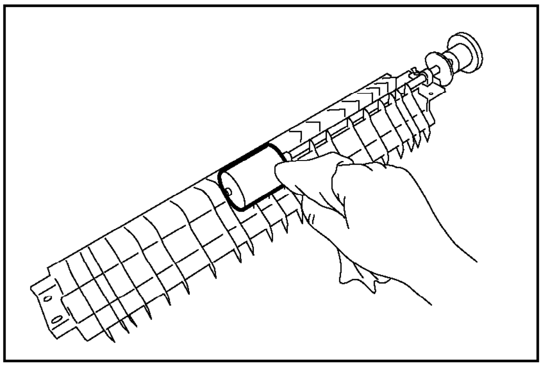
(1) Clean the **Registration Roller**, **Duplex Transfer Roller** and **Pinch Roller** with soft cloth, saturated with isopropyl alcohol.
(2) Clean the **Bias Transfer Roller** with soft dry Cloth.



(3) Remove the Paper Feed Roller Assembly. (Refer to2.2.9.)
(4) Remove the **Separation Pad** (659).

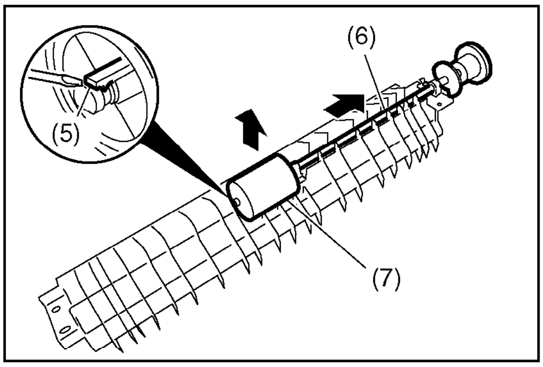
<Turning over the Separation Pad>

To improve separation, turn over the **Separation Pad**.

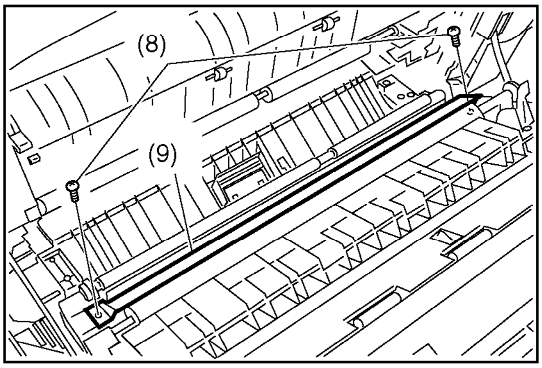


<Cleaning the Paper Feed Roller>

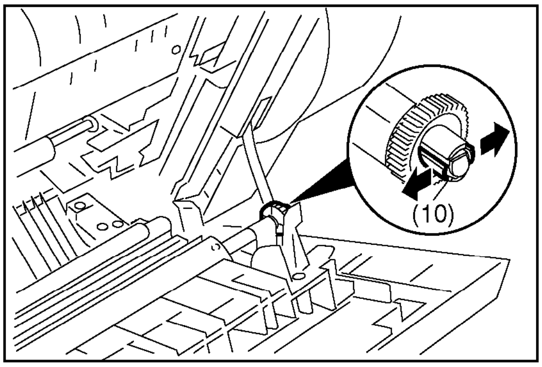
Clean the **Paper Feed Roller** with soft cloth, saturated with isopropyl alcohol.



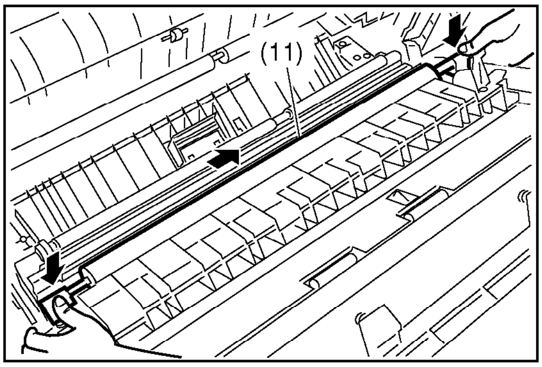
(5) Release the **Latch Hook** with a small screwdriver.
(6) Remove the **Feed Roller Shaft** (677).
(7) Remove the **Paper Feed Roller** (679).



(8) 2 **Screws** (C8).
(9) Remove the **BTR Guide** (642).

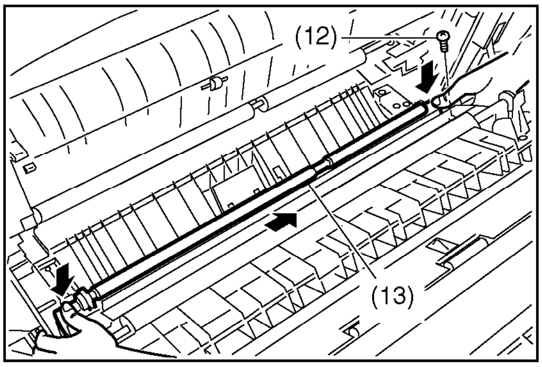


(10) Release 2 **Latch Hooks** and remove the **BTR Gear** (644).

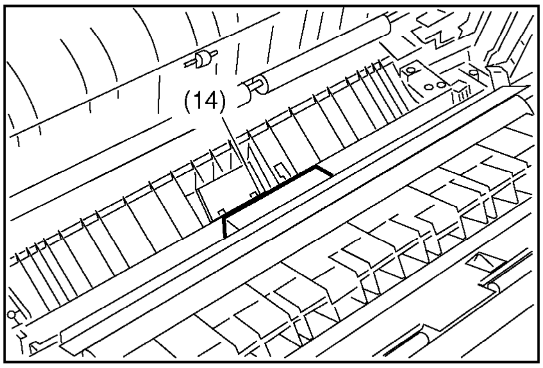


(11) Remove the **Bias Transfer Roller** (648).

Note:
When re-installing the **Bias Transfer Roller** (648), make sure that the **Springs** are on both sides, the **White Bushing** is in front and the **Black Bushing** is in rear.

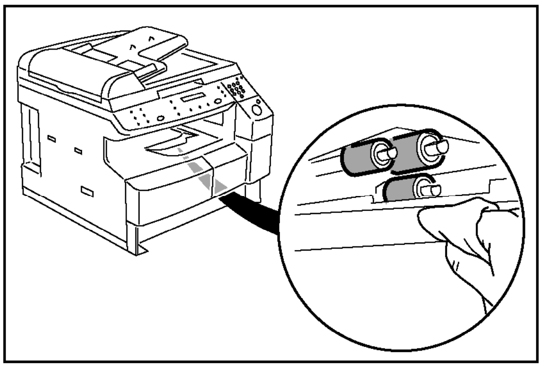


(12) 1 **Screw** (C8).
(13) Remove the **Timing Pinch Roller** (647).



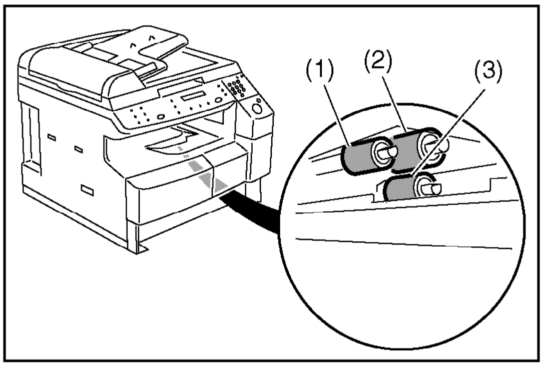
(14) Remove the **Cleaner Roller** (640).

2.2.14. Paper Feed Module



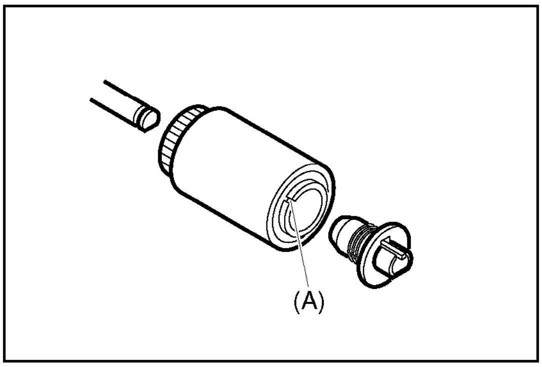
<Cleaning the Paper Feed Roller and **C25 Gear Roller>**

Clean the Paper Feed Roller and C25 Gear Roller with soft cloth, saturated with isopropyl alcohol.

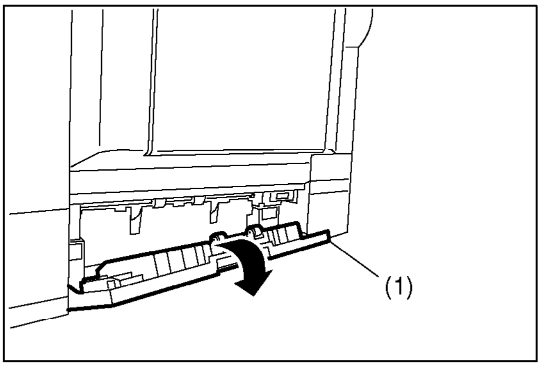


(1) Release the Latch hook and remove the **C25 Gear Roller** (1207) and **Reverse Clutch** (1212).
(2) Remove the **Feed Roller** (1213).
(3) Remove the **C25 Gear Roller** (1207) and **Reverse Clutch** (1212).

Note:
2nd/3rd/4th Paper Feed Modules are as the same steps (1)~(3).

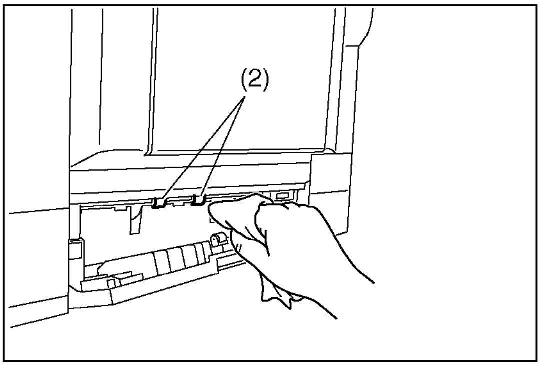


Note:
When re-installing the **C25 Gear Roller** (1207) removed in step (3), insert the edge of Clutch Spring into the groove of Roller.



<Cleaning the Intermediate Roller of 2nd/3rd/4th Paper Feed Module>

(1) Open the **Jam Cover** (1626).

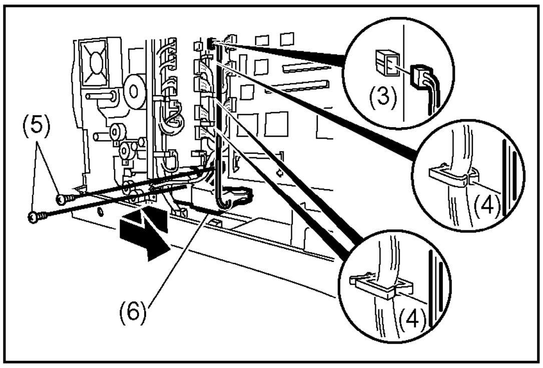


(2) Clean the **Intermediate Roller** (1617).

Note:

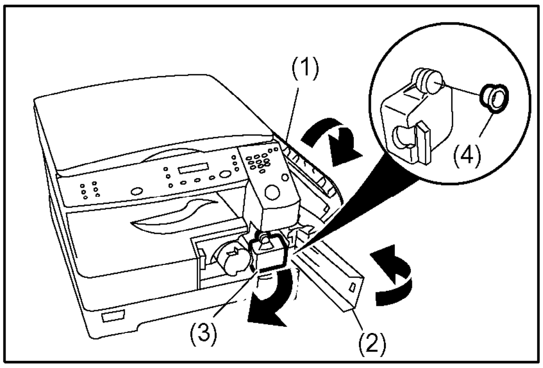
3rd/4th Paper Feed Modules are as the same steps (1)~(2).

2.2.15. Lift Motor Assembly

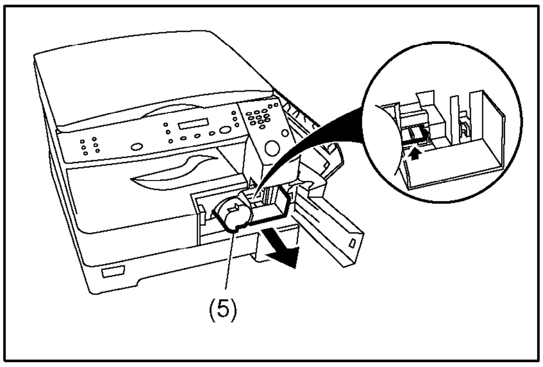


(1) Remove 3 Fly Wheels. (Refer to 2.2.7.)
(2) Remove the HVPS. (Refer to 2.2.9.)
(3) Disconnect the **Harness** on the LPC3 PC Board (CN706).
(4) Release the **Harness** from the Clamps.
(5) 2 **Screws** (19).
(6) Remove the **Lift Motor Assembly** (1238).

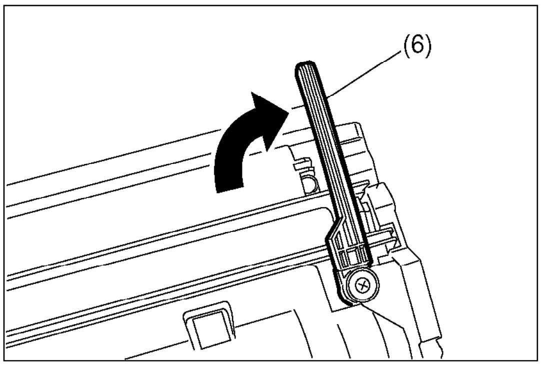
2.2.16. Process Unit



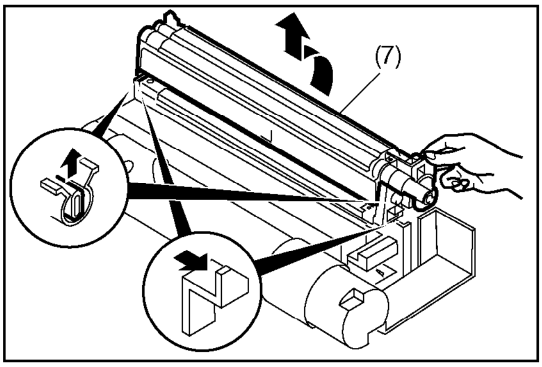
(1) Open the **Right Cover**.
(2) Open the **Front Door Cover**.
(3) Remove the **Toner Waste Container** by slowly pulling it towards the left as illustrated.
(4) Seal the Container with the enclosed cap and dispose of it properly.



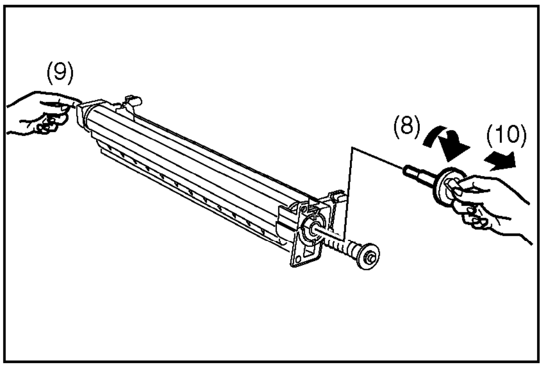
(5) Lift the **Release Latch** (White) and remove the **Process Unit**.



(6) Open the bottom Leg as illustrated.



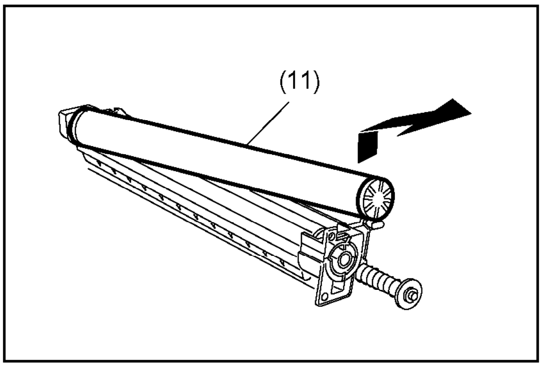
(7) Release 2 **OPC Latches** (1044, 1045) and turn the OPC Drum Assembly in the direction of the arrow.



(8) Unlock the **Front OPC Bushing Assembly** (1003, 1023) by turning it clockwise.

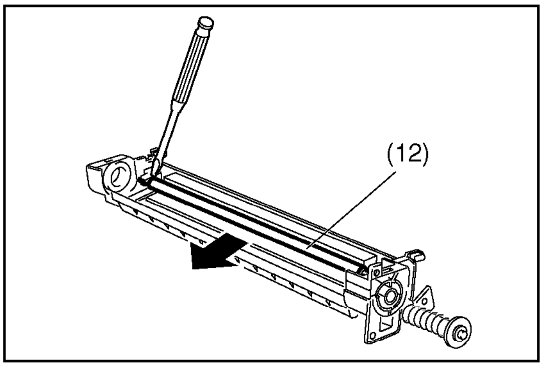
(9) Push the OPC Drum forward from the rear end as illustrated.

(10) Remove the **Front OPC Bushing Assembly** (1003, 1023).

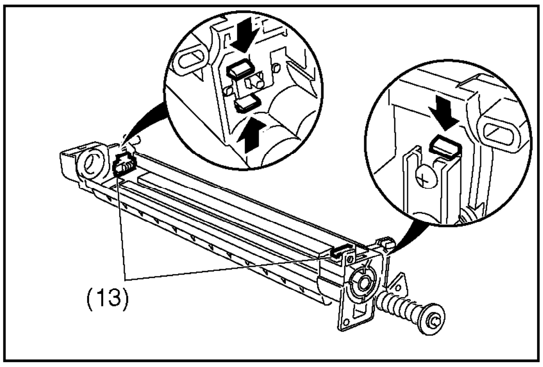


(11) Lift the **OPC Drum** (1001) as illustrated, holding the right side where the Front OPC Bushing Assembly was installed.

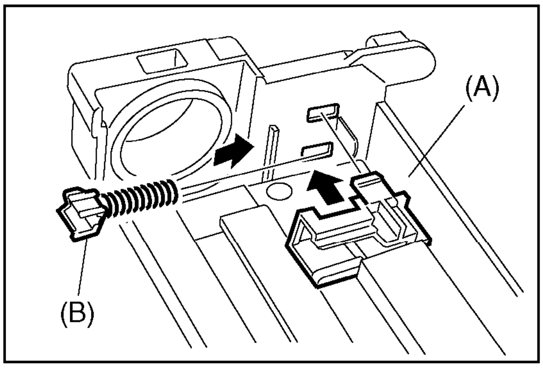
Note:
Do not touch the surface of the OPC Drum with bare hands when removing or re-installing it. Grease from fingerprints will affect copy quality. When installing a new OPC Drum, clean the Bias Charge Roller with a soft dry cloth.



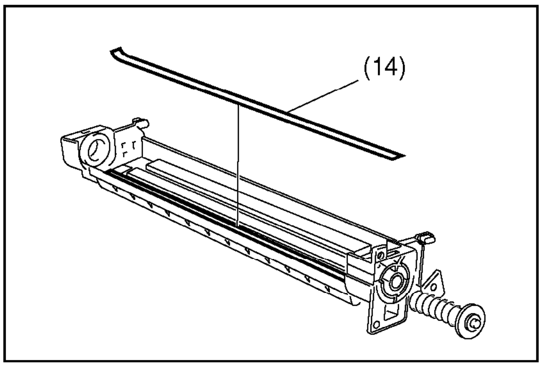
(12) Remove the **Bias Charge Roller** (1036).



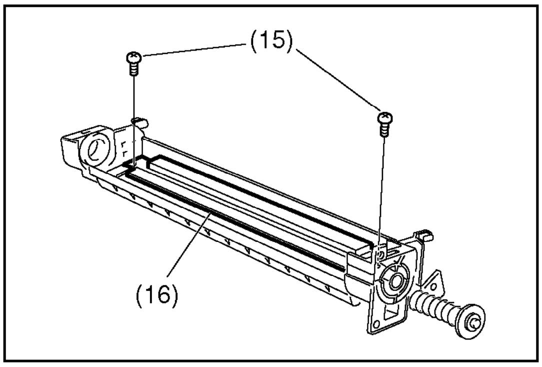
(13) Remove the **Bias Charge Roller Holder Assembly** (1037, 1038, 1039).



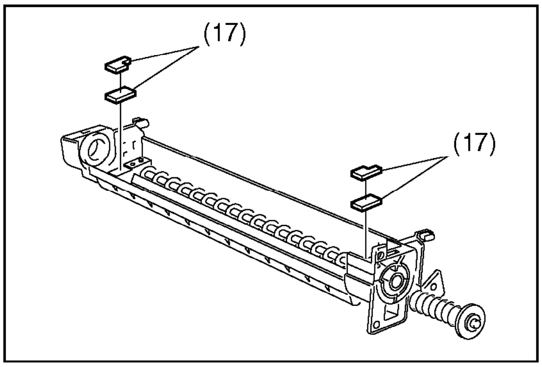
Note:
When re-installing the Bias Charge Roller Holder Assembly, install the **Charge Holder** (1037) first as shown in (A) and then the **Charge Bushing** (1038) with the **Charge Spring** (1039) as shown in (B).



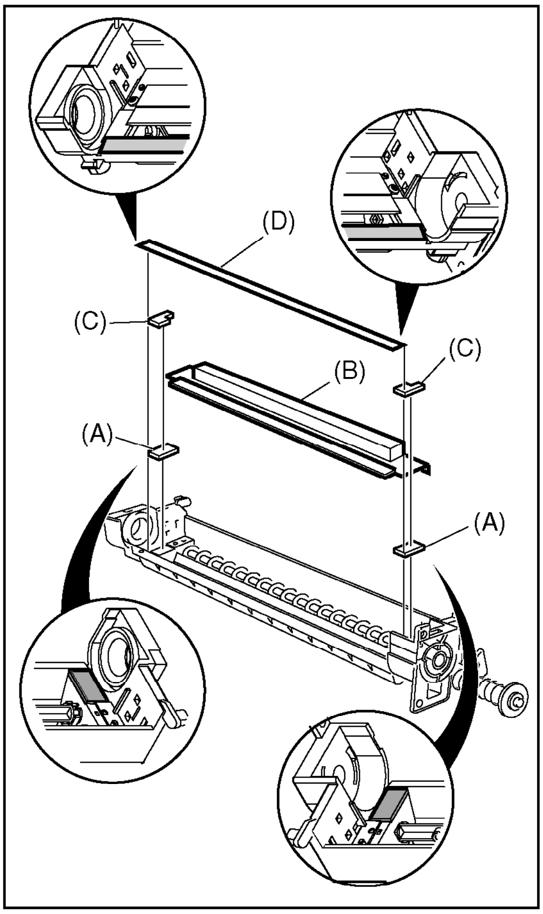
(14) Remove the **Scoop Sheet** (1033).



(15) 2 **Black Screws** (B4).
(16) Remove the **Cleaning Blade Assembly** (1035).

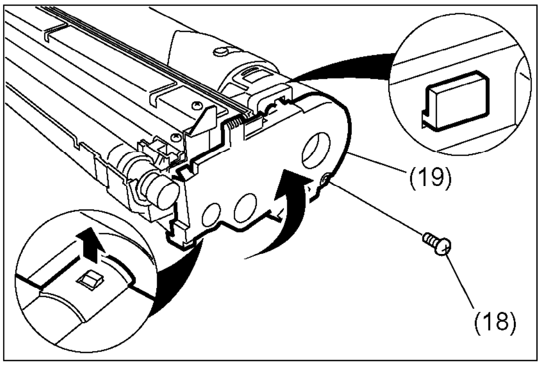


(17) Remove **Front Cleaning Felt** (1031), **Rear Cleaning Felt** (1032) and 2 **Cleaning Sponges** (1030).

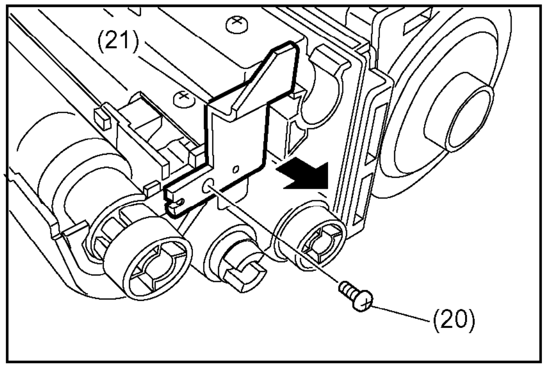


Note:

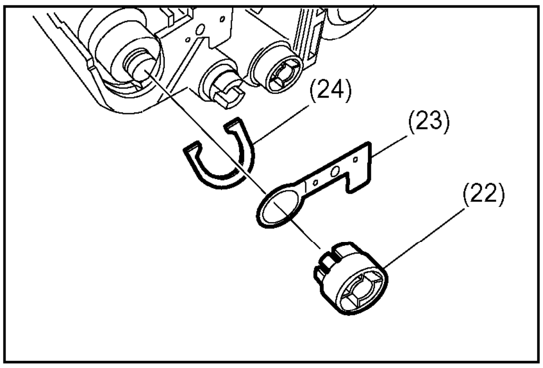
1. When re-installing, install 2 CL Sponges (1030) first as shown in (A), then the CL Blade Assembly (1035) next as shown in (B), then the Front CL Felt (1031) and Rear CL Felt (1032) as shown in (C) and lastly attach the Scoop Sheet (1033) as shown in (D).
2. When re-installing the CL Felts, make sure that there is no space between the rubber part of the CL Blade Assembly and the CL Felts as illustrated.
3. When re-installing the CL Sponges and the Scoop Sheet, attach them flat aligning with the edge of the Front OPC Bushing Assembly as illustrated.



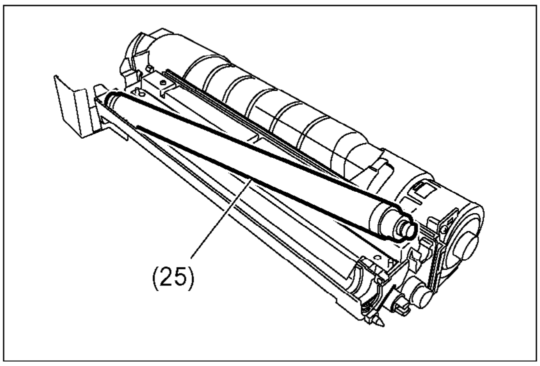
(18) 1 **Black Screw** (B4).
(19) Remove the **Rear Hopper Cover** (1011).



(20) 1 **Black Screw** (B4).
(21) Remove the **Rear OPC Latch** (1045).



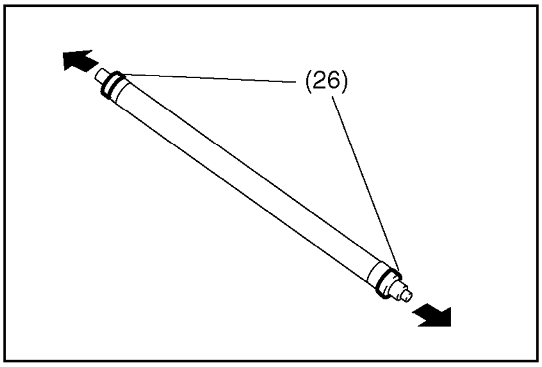
(22) Remove the **Mag Roller Joint** (1047).
(23) Remove the **Charge Plate D** (1059).
(24) Remove the **Mag Roller Stopper** (1046) by gently pushing it downwards.



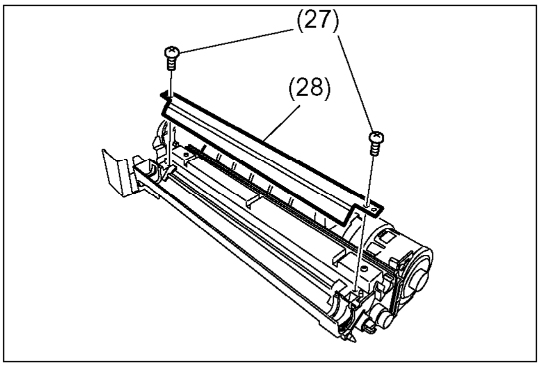
(25) Remove the **Mag Roller** (1048).

Note:

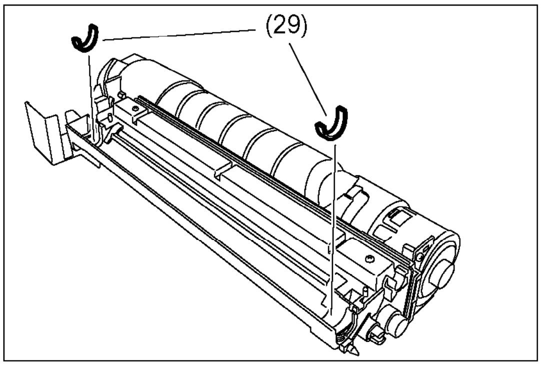
1. Do not touch the surface of the Mag Roller.
2. When removing or re-installing, place the Mag Roller on a cloth or paper and handle it with care.



(26) Remove the **Gap Rollers** (1049).

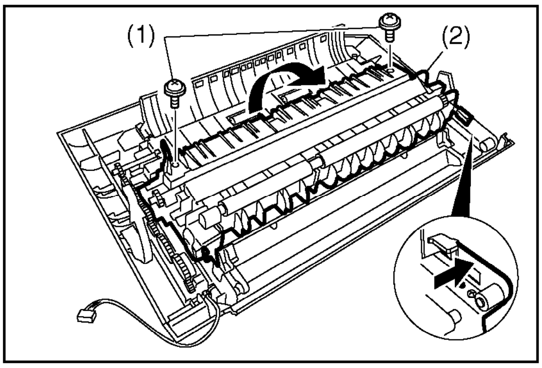


(27) 2 **Black Screws** (B4).
(28) Remove the **Dr. Blade Assembly** (1040).

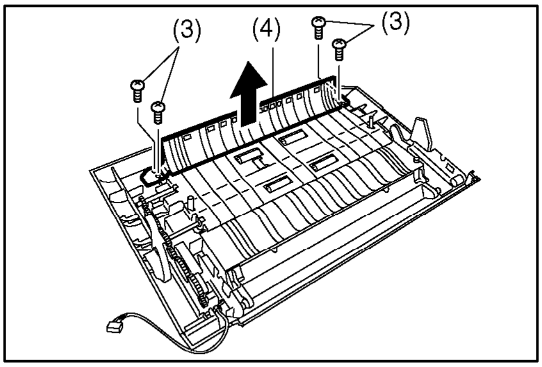


(29) Remove 2 **Developer Felts** (1041).

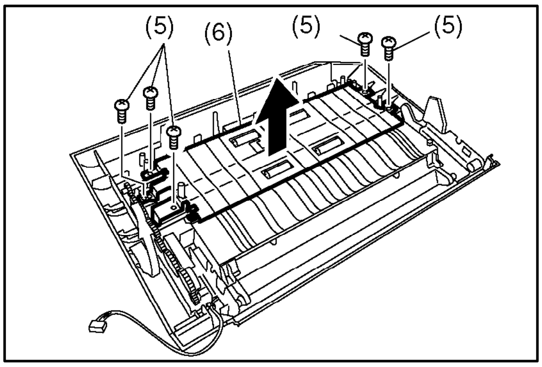
2.2.17. Duplex Feed Roller (For DP-2010E Only)



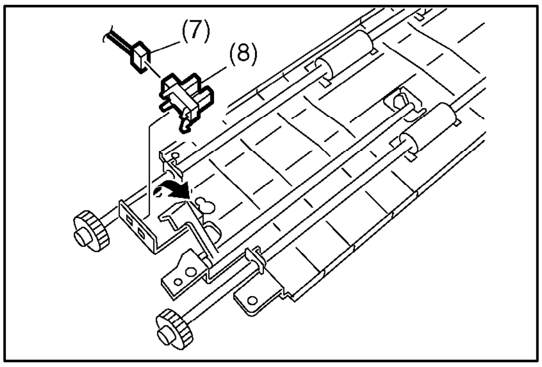
(1) 2 **Screws** (C8).
(2) Remove the **Transfer Guide** (639) Assembly.



(3) 4 **Screws** (19).
(4) Remove the **Duplex Guide 3** (675).

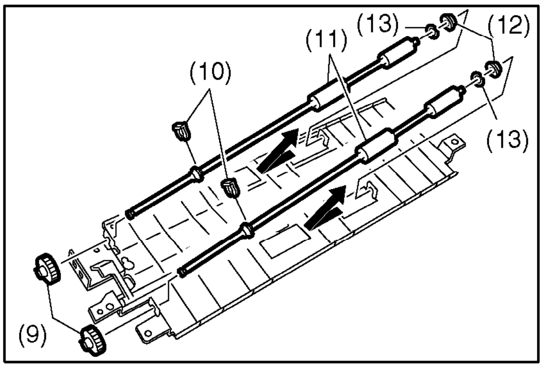


(5) 5 **Screws** (19).
(6) Remove the **Duplex Guide 1** (602) Assembly.



(7) Disconnect the **Harness** (1844).
(8) Remove the **Photo Sensor** (604) lifting the **Paper Actuator** (606).

Note:
When re-installing, make sure that Photo Sensor is re-installed properly.



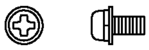
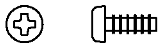
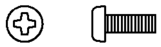
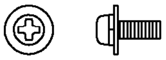
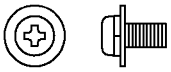
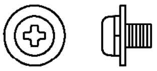
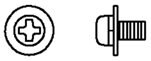
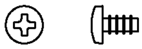
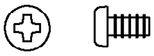
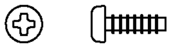
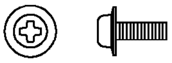
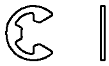
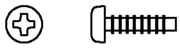
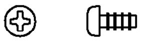
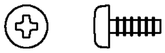
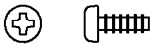
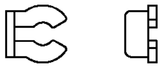
(9) Remove 2 **E15 D Gears** (607).

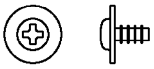
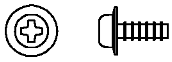
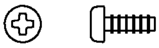
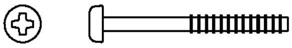
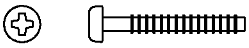
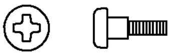
(10) Remove 2 **Snap Rings** (B9).

(11) Remove 2 **Duplex Feed Rollers** (609).

(12) Remove 2 **Bushings** (611) and 2 **Washers** (610).

2.3. Screw Identification Template

Ref No.	Part No.	Figure	Remark
18	XYN3+L6		Screw
19	XTB3+8J		Screw
20	XTB3+F8		Screw
23	XYN3+F8		Screw
24	XYN4+F8		Screw
35	XYN4+F6		Screw
36	XYN3+F6		Screw
62	XTB3+6J		Screw
1N	XTB4+8J		Screw
1Y	XTB3+10J		Screw
4N	XSN3+W8PC		Screw
5Y	XUC4		E-Ring
6A	XTB3+12J		Screw
7B	XTB26+6J		Screw
B1	DZPB000007		Silver Screw
B4	XTB3+8JK		Blue Screw
B9	DZJM000171		Snap Ring

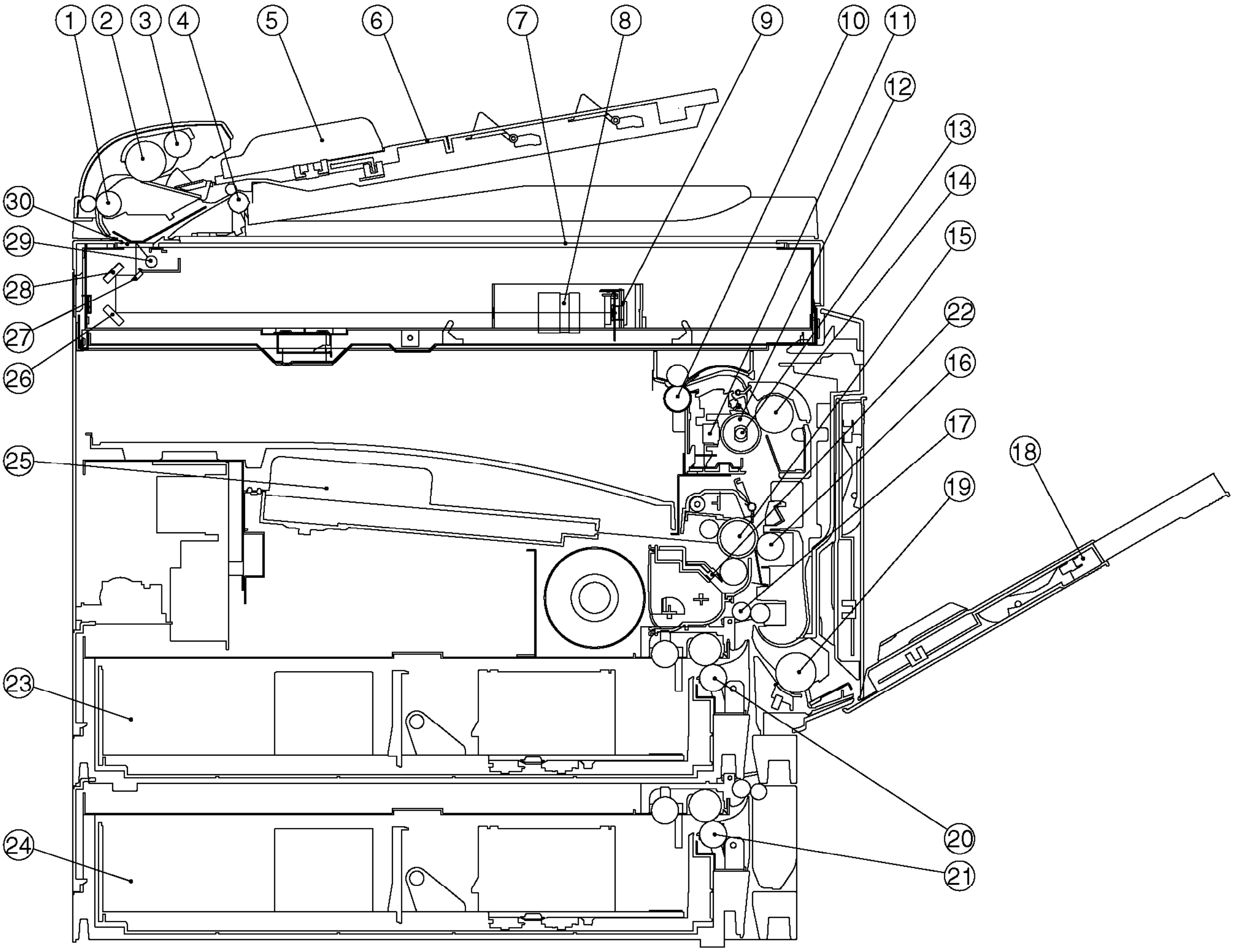
Ref No.	Part No.	Figure	Remark
C2	DZPB000020		Screw
C8	XTW3+8SFC		Screw
D24	DZPA000013		Red Screw
E5	XTB3+32J		Screw
E6	XTB3+24J		Screw
G5	FFPFA0107B		Shoulder Screw

3 Maintenance, Adjustments and Check Points

3.1. Required Tools

No.	Tool	No.	Tool
1	Soft Cloth	7	Pliers
2	Isopropyl Alcohol	8	Cotton Swab
3	Phillips Screwdriver (#2)	9	Brush
4	Stubby Phillips Screwdriver (#2)	10	KS-660 - Conductive Grease (Available from Shin-Etsu Silicones of America, Inc. URL: http://www.shinetsusilicones.com)
5	Slotted Blade Screwdriver (3/32 in)	11	Molykote EM-50L Grease (Available from Dow Corning, URL: http://www.dowcorning.com)
6	Tweezer		

3.2. Periodic Maintenance Points



3.2.1. Periodic Maintenance Points Part Description

No.	Part Name	No.	Part Name
1	Roller, Feed (409)	16	Roller, Bias Transfer (648)
2	Roller, Paper Feed (679)	17	Roller, Registration (1162)
3	Roller, Pre Feed (420)	18	Sheet Bypass
4	Roller, Exit (316)	19	Roller, Paper Feed (679)
5	Guides, Original F and R (332,335)	20	Roller, C25 Gear (1207)
6	Tray, Original Upper (333)	21	Roller, C25 Gear (1207)
7	Glass L Assembly (117)	22	Process Unit
8	Lens, Scanning	23	1st Paper Tray
9	CCD Assembly	24	2nd Paper Tray (Optional)
10	Roller, Exit (912)	25	LSU (710)
11	Thermostat (947)	26	Mirror 2 (552)
12	Roller, Fuser (913)	27	Mirror 1 (551)
13	Lamp, Fuser (924)	28	Mirror 2 (552)
14	Roller, Pressure (914)	29	Lamp, Scanner (501)
15	Drum, OPC (1001)	30	Glass S (116)

3.2.2. Periodic Maintenance Method

No.	Part Description	Important Action	Comments
1	Memory Data	Check	1. Print the RAM DATA for reference and pre-caution. 2. After completing the task(s), print and compare the RAM DATA with the previously printed one.
2	Auto Document Feeder (ADF)	Check & Clean	1. Clean the Rollers and Separation Rubber with Isopropyl Alcohol when required.
3	Scanner Unit	Check & Clean	1. Clean the Scanning Glass or White Seal Guide with Isopropyl Alcohol when required.
4	Transmitter Unit	Check & Clean	1. Remove any foreign obstacles. 2. Clean the Rollers with Isopropyl Alcohol when required.
5	Mirrors	Check & Clean	1. Do not touch the surface of the Mirrors with your hands. Clean any dirt or fingerprints with a soft cloth, saturated with Isopropyl Alcohol.
6	Inspection Items	Check	1. Check the Harnesses. 2. Check the Connectors. 3. Check the Screws. If required, replace consumable parts.
7	Gears, Rollers Shafts	Check & Grease	1. Check and grease the required Gears and Shafts.
8	Timing Belts	Check & Clean	1. Check for belt looseness or abrasion. 2. Adjust the Idle Pulley.

3.3. Periodic Maintenance Check List

For a detailed Periodic Maintenance Check List.

Mechanical Parts	Ref. No.	Cleaning		Replacement/Adjustment		Ref. Counter
		Cycle (Sheet)	Method	Cycle (Sheet)	Procedure	
ADF Unit						
Exit Roller	316	60K	Alcohol	-	Refer to Sect. 2.2.2.	F7-05 ADF/i-ADF PM Count
White Sheet	318	60K	Alcohol	-		
Feed Roller	409	60K	Alcohol	-		
Pre Feed Roller	420	60K	Alcohol	120K		
Separation Rubber	428	-	-	60K		
Paper Feed Roller	679	60K	Alcohol	120K		
Scanning Pad	338	60K	Dry soft cloth	-		F7-04 Scanner PM Count
Scanner Unit						
Glass S	116	60K	-	-	Refer to Sect. 2.2.5.	F7-04 Scanner PM Count
Glass L Assembly	117	60K	-	-		
Mirror 1	551	60K	-	-		
Mirror 2	552	60K	-	-		
Paper Feed Module						
C25 Gear Roller	1207	60K	Alcohol	120K	Refer to Sect. 2.2.14.	F7-12 1st Paper Tray Count
Clutch Assembly	1246	-	-	120K		
Paper Feed Roller	1213	60K	Alcohol	120K		
Registration Roller	1162	60K	Alcohol	-	Refer to Sect. 2.2.12.	F7-02 Total Count
C25 Gear Roller	1207	60K	Alcohol	120K	Refer to Sect. 2.2.14.	F7-13 2nd Paper Tray Count F7-14 3rd Paper Tray Count F7-15 4th Paper Tray Count
Clutch Assembly	1246	-	-	120K		
Paper Feed Roller	1213	60K	Alcohol	120K		
Intermediate Roller	1617	60K	-	-		
Cleaner Roller	640	60K	Dry soft cloth	240K	Refer to Sect. 2.2.13.	F7-02 Total Count
Separation Pad	659	20K	Turn over	40K		F7-11 Sheet Bypass Count
Paper Feed Roller	679	60K	Alcohol	120K		
Bias Transfer Unit						
Bias Transfer Roller (BTR)	648	60K	Dry soft cloth	120K	Refer to Sect. 2.2.13.	F7-02 Total Count
Process Unit						
LSU	710	60K	Alcohol	-	Refer to Sect. 2.2.16.	F7-07 Process Unit Count
Mag Roller	1048	-	-	120K		
Gap Roller	1049	-	-	120K		
Dr Blade Assembly	1040	-	-	120K		
Development Felt	1041	-	-	120K		
Mag Roller Joint	1047	-	-	120K		
Bias Charge Roller	1036	45K	Dry soft cloth	120K		
Cleaning Blade Assembly	1035	-	-	120K		

Mechanical Parts	Ref. No.	Cleaning		Replacement/Adjustment		Ref. Counter
		Cycle (Sheet)	Method	Cycle (Sheet)	Procedure	
Front Cleaning Felt	1031	-	-	120K	Refer to Sect. 2.2.16.	F7-07 Process Unit Count
Rear Cleaning Felt	1032	-	-	120K		
Cleaning Sponge	1030	-	-	120K		
Scoop Sheet	1033	-	-	120K		
OPC Drum	1001	-	-	45K		
Fuser Unit						
Fuser Roller	913	60K	Alcohol	120K	Refer to Sect. 2.2.11.	F7-02 Total Count
Pressure Roller	914	60K	Alcohol	240K		
Separator	923	60K	Alcohol	120K		
Fuser Lamp (for U.S.A. and Canada)	924	-	-	240K		
Fuser Lamp (for Other Destinations)	924	-	-	240K		
P6L5.5 Bushing	932	-	-	240K		
P30L6.8 Bushing	937	-	-	120K		
Thermistor Assembly	944	60K	Dry soft cloth	120K		
Thermostat	947	60K	Dry soft cloth	-		
Separation HR Sheet	970	60K	Alcohol	120K		

Note

The Maintenance Cycle is based on the Counter Information for each individual module.

To verify the counter information, print the Total Counter List using the Service Mode: F9 - 03 (Print Device Info.) - 02 (Counter Information)

3.4. Updating the Firmware

This machine is equipped with an F-ROM (Flash ROM). F-ROM offers the flexibility of quick and easy firmware updates, creation of a master firmware card, backup and restore of firmware and machine parameters.

The following is the basic procedure to update the firmware of the machine. The details are described in the Firmware Update Tool Operating Instructions.

3.4.1. Creating a Master Firmware Card

A. Utilizing the Firmware Update Kit

1. Install the Firmware Update Kit.
2. Install a Flash Memory Card (4 MB) into the machine.
3. Follow the instructions included in the Firmware Update Kit User’s Guide.

B. Copying the Firmware from an Existing Machine using a 4MB Flash Memory Card

1. Turn the Power Switch to the OFF (O) position.
2. Install a Flash Memory Card (4 MB) into the machine.
3. Turn the Power Switch to the ON (I) position.
4. Press “FUNCTION”, “ORIGINAL SIZE” keys and then Key “3” on the keypad sequentially.
5. Perform the Copy Service Mode F9-08-00 (FIRMWARE BACKUP HOST PROGRAM <4MB>).
6. The firmware is copied into the Flash Memory Card.
7. After the backup is completed, press "STOP" first and then press “FUNCTION” + “CLEAR” keys simultaneously to return to standby.
8. Turn the Power Switch to the OFF (O) position.
9. Remove the Master Firmware Card that you just created from the machine.
10. Turn the Power Switch to the ON (I) position.
11. Use this Master Firmware Card to update the firmware on other machines.

C. Copying the Firmware from an Existing Machine using two 2MB Flash Memory Cards

1. Turn the Power Switch to the OFF (O) position.
2. Install a Flash Memory Card (2 MB) into the machine.
3. Turn the Power Switch to the ON (I) position.
4. Press “FUNCTION”, “ORIGINAL SIZE” keys and then Key “3” on the keypad sequentially.
5. Perform the Copy Service Mode F9-08-01 (FIRMWARE BACKUP HOST PART A <2MB>).
6. The firmware is copied into the Flash Memory Card.
7. After the backup is completed, press "STOP" first and then press “FUNCTION” + “CLEAR” keys simultaneously to return to standby.
8. Turn the Power Switch to the OFF (O) position.
9. Remove the Master Firmware Card that you just created from the machine and install a second Flash Memory Card (2 MB) into the machine.
10. Turn the Power Switch to the ON (I) position.
11. Press “FUNCTION”, “ORIGINAL SIZE” keys and then Key “3” on the keypad sequentially.
12. Perform the Copy Service Mode F9-08-02 (FIRMWARE BACKUP HOST PART B <2MB>).
13. The firmware is copied into the Flash Memory Card.
14. After the backup is completed, press "STOP" first and then press “FUNCTION” + “CLEAR” keys simultaneously to return to standby.
15. Turn the Power Switch to the OFF (O) position.
16. Remove the Master Firmware Card that you just created from the machine.
17. Turn the Power Switch to the ON (I) position.
18. Use these 2 Master Firmware Cards to update the firmware on other machines.

3.4.2. Updating the Host Firmware using the Master Firmware Card

A. When a 4 MB Flash Memory Card was used

1. Before starting, print the F5 & F6 Parameters (Copier) Lists.
2. Turn the Power Switch to the OFF (O) position.
3. Install the appropriate Master Firmware Card into the machine.
4. Turn the Power Switch to the ON (I) position.
5. Press “FUNCTION”, “ORIGINAL SIZE” keys and then Key “3” on the keypad sequentially.
6. Perform the Copy Service Mode F9-07-00 (FIRMWARE UPDATE HOST PROGRAM <4MB>).
7. The firmware is copied into the machine.
8. After the update is completed, the machine reboots itself and returns to standby.
9. Perform the Copy Service Mode F9-06-00 (PARAMETER INITIALIZE).
10. Turn the Power Switch to the OFF (O) position.
11. Remove the Master Firmware Card from the machine.
12. Turn the Power Switch to the ON (I) position.
13. Reprogram the F5 & F6 Parameters (Copier) according to the lists printed in Step 1 above if the settings are other than factory default.

B. When two 2 MB Flash Memory Cards were used

1. Before starting, print the F5 & F6 Parameters (Copier) Lists.
2. Turn the Power Switch to the OFF (O) position.
3. Install the Master Firmware Card (Part A) into the machine.
4. Turn the Power Switch to the ON (I) position.
5. Press “FUNCTION”, “ORIGINAL SIZE” keys and then Key “3” on the keypad sequentially.
6. Perform the Copy Service Mode F9-07-01 (FIRMWARE UPDATE HOST PART A <2MB>).
7. The firmware is copied into the machine.
8. After the update is completed, the machine reboots itself and returns to standby.
9. Turn the Power Switch to the OFF (O) position.
10. Remove the Master Firmware Card (Part A) and install the Master Firmware Card (Part B) into the machine.
11. Turn the Power Switch to the ON (I) position.
12. Press “FUNCTION”, “ORIGINAL SIZE” keys and then Key “3” on the keypad sequentially.
13. Perform the Copy Service Mode F9-07-02 (FIRMWARE UPDATE HOST PART B <2MB>).
14. The firmware is copied into the machine.
15. After the update is completed, press "STOP" first and then press “FUNCTION” + “CLEAR” keys simultaneously to return to standby.
16. Turn the Power Switch to the OFF (O) position.
17. Remove the Master Firmware Card from the machine.
18. Turn the Power Switch to the ON (I) position.
19. Perform the Copy Service Mode F9-06-00 (PARAMETER INITIALIZE).
20. Reprogram the F5 & F6 Parameters (Copier) according to the lists printed in Step 1 above if the settings are other than factory default.

3.4.3. Updating the Host Firmware using a PC via the Parallel Port

1. Before starting, print the F5 & F6 Parameters (Copier) Lists.
2. Connect the machine to the PC with a Parallel Printer Cable.
3. Install the Panasonic Firmware Programming Wizard software to the PC. (Refer to the Firmware Update Tool Operating Instructions)
4. Perform the Copy Service Mode F9-07-05 (PC → HOST).
   Now the machine is ready to accept programming firmware code from the PC.
5. Start the Panasonic Firmware Program using the Wizard.
6. The firmware is copied into the machine.
7. After the update is completed, the machine reboots itself and returns to standby.
8. Perform the Copy Service Mode F9-06-00 (PARAMETER INITIALIZE).
9. Turn the Power Switch to the OFF (O) position.
10. Remove the Master Firmware Card from the machine.
11. Turn the Power Switch to the ON (I) position.
12. Reprogram the F5 & F6 Parameters (Copier) according to the lists printed in Step 1 above if the settings are other than factory default.

3.4.4. Updating the PDL Board Firmware using the Master Firmware Card

1. Turn the Power Switch to the OFF (O) position.
2. Install the appropriate Master Firmware Card into the machine.
3. Turn the Power Switch to the ON (I) position.
4. Press “FUNCTION”, “ORIGINAL SIZE” keys and then Key “3” on the keypad sequentially.
5. Perform the Copy Service Mode F9-07-03 (FIRMWARE UPDATE PDL BOARD <2MB>).
6. The firmware is copied into the PDL PC Board.
7. After the update is completed, the LCD displays "COMPLETE".
8. Check the Update Version with the Copy Service Mode F9-02-05 (PRINTER BOARD (PDL)).
9. Turn the Power Switch to the OFF (O) position.
10. Remove the Master Firmware Card from the machine.
11. Turn the Power Switch to the ON (I) position.

3.4.5. Updating the LAN Board (NIC/i-Fax) Firmware using the Master Firmware Card

1. Turn the Power Switch to the OFF (O) position.
2. Install the appropriate Master Firmware Card into the machine.
3. Turn the Power Switch to the ON (I) position.
4. Press “FUNCTION”, “ORIGINAL SIZE” keys and then Key “3” on the keypad sequentially.
5. Perform the Copy Service Mode F9-07-04 (FIRMWARE UPDATE LAN BOARD <2MB>).
6. The firmware is copied into the LAN Board.
7. After the update is completed, the LCD displays "COMPLETE".
8. Check the Update Version with the Copy Service Mode F9-02-06 (LAN BOARD).
9. Turn the Power Switch to the OFF (O) position.
10. Remove the Master Firmware Card from the machine.
11. Turn the Power Switch to the ON (I) position.

3.4.6. Erasing the Master Firmware Card

1. Turn the Power Switch to the OFF (O) position.
2. Install the Master Firmware Card into the machine.
3. Turn the Power Switch to the ON (I) position.
4. Press “FUNCTION”, “ORIGINAL SIZE” keys and then Key “3” on the keypad sequentially.
5. Perform the Service Mode F9-09 (PC → FLASH CARD).
6. After the Flash Memory Card is erased, machine prompts “PROGRAM CARD?”. Press “NO”.
7. Press "STOP" first and then press “FUNCTION” + “CLEAR” keys simultaneously to return to standby.
8. Turn the Power Switch to the OFF (O) position.
9. Remove the blank Flash Memory Card from the machine.
10. Repeat from Step 2 above if you are erasing another Master Firmware Card.

3.4.7. Firmware Version

HOST : DP-1810P A A V1.xxxx PU

Destination Code
PU : USA / Canada

Firmware Version (V1.xxxx)

Language Code
A : US English, C-French & Spanish
B : US English, Spanish & Portuguese
b : English, French & Spanish
g : German, French & Italian

Firmware Type
A : Standard
B : Optional

Model Number

3.5. Glossary of Electrical Abbreviations

Glossary of Electrical Abbreviations	
Signal Name	**Description**
+12V	+12 VDC Power Supply
+24V	+24 VDC Power Supply
+24VD1	+24 VDC Power Supply
+24VF	+24 VDC Power Supply
+24VM	+24 VDC Power Supply
+24VOPF	+24 VDC Power Supply
+3.3V	+3.3 VDC Power Supply
+5V	+5 VDC Power Supply
+5VI	+5 VDC Power Supply
+5VP	+5 VDC Power Supply
+5VPRST	Panel Reset Signal
+VDO	Video Signal (LVPS + Output)
-12V	-12 VDC Power Supply
-VDO	Video Signal (LVPS - Output)
A0	Address Signal
A1	Address Signal
A10	Address Signal
A11	Address Signal
A12	Address Signal
A13	Address Signal
A14	Address Signal
A15	Address Signal
A16	Address Signal
A17	Address Signal
A18	Address Signal
A19	Address Signal
A2	Address Signal
A20	Address Signal
A21	Address Signal
A22	Address Signal
A3	Address Signal
A4	Address Signal
A5	Address Signal
A6	Address Signal
A7	Address Signal
A8	Address Signal
A9	Address Signal
AC(L)	AC Power Supply
AC(N)	AC Power Supply
AGND	Ground
AL[1]	Address Signal
AL[10]	Address Signal
AL[11]	Address Signal
AL[12]	Address Signal

Glossary of Electrical Abbreviations	
Signal Name	**Description**
AL[2]	Address Signal
AL[3]	Address Signal
AL[4]	Address Signal
AL[5]	Address Signal
AL[6]	Address Signal
AL[7]	Address Signal
AL[8]	Address Signal
AL[9]	Address Signal
BATVOL	Battery Voltage
BAT/BUZCLK	Battery Voltage Buzzer Clock
BBA[0]	S-DRAM Memory Area Switching Signal
BBA[1]	S-DRAM Memory Area Switching Signal
BDCLK[0]	S-DRAM Access Clock
BDCLK[1]	S-DRAM Access Clock
BLCNT1	LED Control
BLCNT2	LED Control
BMA[0]	Address Signal
BMA[1]	Address Signal
BMA[10]	Address Signal
BMA[11]	Address Signal
BMA[12]	Address Signal
BMA[2]	Address Signal
BMA[3]	Address Signal
BMA[4]	Address Signal
BMA[5]	Address Signal
BMA[6]	Address Signal
BMA[7]	Address Signal
BMA[8]	Address Signal
BMA[9]	Address Signal
BMD[0]	Data Signal
BMD[1]	Data Signal
BMD[10]	Data Signal
BMD[11]	Data Signal
BMD[12]	Data Signal
BMD[13]	Data Signal
BMD[14]	Data Signal
BMD[15]	Data Signal
BMD[18]	Data Signal
BMD[19]	Data Signal
BMD[2]	Data Signal
BMD[20]	Data Signal
BMD[21]	Data Signal
BMD[22]	Data Signal
BMD[23]	Data Signal
BMD[24]	Data Signal

Glossary of Electrical Abbreviations	
Signal Name	**Description**
BMD[25]	Data Signal
BMD[26]	Data Signal
BMD[27]	Data Signal
BMD[28]	Data Signal
BMD[29]	Data Signal
BMD[3]	Data Signal
BMD[30]	Data Signal
BMD[31]	Data Signal
BMD[37]	Data Signal
BMD[38]	Data Signal
BMD[4]	Data Signal
BMD[5]	Data Signal
BMD[6]	Data Signal
BMD[7]	Data Signal
BMD[8]	Data Signal
BMD[9]	Data Signal
BPLED	Photo Sensor DC Drive Voltage
BUSY	Peripheral Busy (Peripheral→Host)
BZCK	Buzzer Signal
CDTRXD	Not Used
CE1	+5 VDC Power Supply
CHARGE	Charge Signal (High Voltage)
CR0	Charge Control DC Output
CR1	Charge Control DC Output
CRCLK	Clock Signal
CRTTXD	Not Used
CS	Chip Select Signal
D0	Data Signal
D1	Data Signal
D11	Data Signal
D12	Data Signal
D13	Data Signal
D14	Data Signal
D15	Data Signal
D2	Data Signal
D3	Data Signal
D4	Data Signal
D5	Data Signal
D6	Data Signal
D7	Data Signal
D8	Data Signal
D9	Data Signal
D10	Data Signal
DAA1	ADF Motor Current Control Signal
DATA0	Data Signal

Glossary of Electrical Abbreviations	
Signal Name	**Description**
DATA1	Data Signal
DATA2	Data Signal
DATA3	Data Signal
DATA4	Data Signal
DATA5	Data Signal
DATA6	Data Signal
DATA7	Data Signal
DEVELOPMENT	Development Signal (High Voltage)
DR0	Development Control AC+DC Output
DRCLK	LSU Clock
FCK1	Shift Register Clock
FCK2	Shift Register Clock
FCP	Clamp Clock
FER	Transfer Signal (High Voltage)
FG	Ground
FGND	Ground
FLNG	Inverter Control Signal
FR	Reset Gate Clock
FSH	Transfer Gate Clock
GND	Ground
H/L	Not Used
HVAC1	INV PC Board/Lamp Signal
HVAC2	INV PC Board/Lamp Signal
IOD[0]	Data Signal
IOD[1]	Data Signal
IOD[10]	Data Signal
IOD[11]	Data Signal
IOD[12]	Data Signal
IOD[13]	Data Signal
IOD[14]	Data Signal
IOD[15]	Data Signal
IOD[2]	Data Signal
IOD[3]	Data Signal
IOD[4]	Data Signal
IOD[5]	Data Signal
IOD[6]	Data Signal
IOD[7]	Data Signal
IOD[8]	Data Signal
IOD[9]	Data Signal
KIN[0]	Key Scan Signal
KIN[1]	Key Scan Signal
KIN[2]	Key Scan Signal
KIN[3]	Key Scan Signal
KIN[4]	Key Scan Signal
KIN[5]	Key Scan Signal
KIN[6]	Key Scan Signal

Glossary of Electrical Abbreviations	
Signal Name	**Description**
KIN[7]	Key Scan Signal
L+5V	Laser Circuit +5 VDC Power Supply
L1	Line Signal
L1 (R)	Ground
L2	Line Signal
L2 (T)	Line Transformer Input Signal
LASERPOW	Laser Power Control
LDBTHP	Toner Bottle HP Sensor Signal
LDCST2	Photo Sensor DC Drive Voltage
LDDUP2	Photo Sensor DC Drive Voltage
LDESEN	Photo Sensor DC Drive Voltage
LDJAM2	Photo Sensor DC Drive Voltage
LDMF4	Photo Sensor DC Drive Voltage
LDMFP	Photo Sensor DC Drive Voltage
LDPS	Photo Sensor DC Drive Voltage
LDRSEN	Photo Sensor DC Drive Voltage
LDSP2	Photo Sensor DC Drive Voltage
LDUPL	Photo Sensor DC Drive Voltage
LDUPL2	Photo Sensor DC Drive Voltage
LINK	LANB PCB/ LANC PCB Link Signal
MGND	Ground
MIC (+)	Handset Microphone
MIC (-)	Handset Microphone
N.C.	No Connection / Not Used
n3MON	DC Motor Ready Signal
n3MONA	DC Motor Rotation Control Signal
n3MRDY	DC Motor Ready Signal
n5VPDLRD	Read Signal
nA3SEN	Sheet Bypass Paper Size Detection Signal
nAA3S	Original Width Detection Signal
nAADL1	Original Length Detection Signal
nAADL2	Original Length Detection Signal
nAAPNT	Original Detection Signal
nAB1SN	Read Point Detection Signal
nAB2SN	Duplex Eject Detection Signal
nAB4S	Original Width Detection Signal
nACK	Peripheral Clock / Data Transfer Acknowledge (Peripheral→Host)
nACLH1	Feed 2 Roller Clutch Control Signal
nACLH2	Paper Feed Roller Clutch Control Signal
nACLH3	Inverting Roller Clutch Control Signal
nACLOCKAD1	ADF Motor Control Clock Signal
nACSW	Relay Control Signal
pADATA1A	ADF Motor Control Signal
pADATA1B	ADF Motor Control Signal
nADF1	Feed Roller Drive Signal

Glossary of Electrical Abbreviations	
Signal Name	**Description**
nADF2	2nd Paper Tray Feed Roller Drive Signal
nAEJC	Original Eject Detection Signal
nAKEEP1	Reversing 1 Guide Solenoid Control Signal
nAKEEP2	Reversing 1 Guide Solenoid Control Signal
nANG	Platen Cover Angle
nAOAC	ADF Cover Open Detection Signal
nAPACHG	Duplex 2 Guide Solenoid Control Signal
nAPICR	Release Lever Plate Solenoid Control Signal
nAREV	ADF Exit Cover Open Detection Signal
nASTAMP	Stamp Control Signal
nASTROAD1	ADF Motor Control Strobe Signal
nAUTOFD	Host Busy (Host→Peripheral)
nB4SENS	Sheet Bypass Paper Detection Signal
nBCAS	S-DRAM Column Address Strobe Command
nBCKE	S-DRAM Clock Enable
nBCS[2]	Chip Select Signal
nBCS[3]	Chip Select Signal
nBCS[4]	Not Used
nBCS[5]	Not Used
nBDOOR	Platen Cover Open Detection Signal
nBDQMH	Input/Output Mask Signal
nBDQML	Input/Output Mask Signal
nBMWT	S-DRAM Write Enable
nBPSEN	Toner Waste Container Sensor
nBRAS	S-DRAM Row Address Strobe Command
nCASET2	2nd Paper Tray Detection Signal
nCASET3	3rd Paper Tray Detection Signal
nCASET4	4th Paper Tray Detection Signal
nCASETT	Paper Tray Detection Signal (1st Feeder)
nCCLH1	Feed 2 Roller Clutch Control Signal
nCD	Flash Card ID
nCE1	+5 VDC Power Supply
nCE2	Low Enable
nCMD	Command Signal
nCMDBSY	Command Busy Signal
nCOUNT	Counter Drive Signal
nCS08	Chip Enable Signal
nCS09	Chip Enable Signal
nCS0A	Chip Enable Signal
nCS0E	Chip Enable Signal
nCST	4th Paper Tray Detection Signal
nCST2	2nd Paper Tray Detection Signal
nCSTOP2	2nd Paper Feed Module Detection Signal
nCSTOP3	3rd Paper Feed Module Detection Signal
nCSTOP4	4th Paper Feed Module Detection Signal

Glossary of Electrical Abbreviations	
Signal Name	**Description**
nCTON	Ring Detection Signal
nDADFON	ADF Option Detection Signal
nDUPKEP2	Duplex Keep Solenoid Drive Signal
nDUPSEN1	Duplex Sensor1 Signal
nESEN	Inner Under Tray Paper Exit Signal
nFAULT	Data Available / Error Condition (Peripheral→Host)
nFDPCHK2	2nd Paper Tray Paper Registration Detection Signal
nFDPCHK3	3rd Paper Tray Paper Registration Detection Signal
nFDPCHK4	4th Paper Tray Paper Registration Detection Signal
nFEED	Feed Signal
nFLON	Inverter Ground
nFNRDT	Fan Ready Signal
nHDF	Sheet Bypass Feed Roller Drive Signal
nHKOF	External Phone Off-Hook Detection Signal
nHSYNC	Horizontal Synchronous Signal
nID0	Flash Card ID
nID1	Flash Card ID
nID2	Flash Card ID
nINIT	Reverse Request / Initialize (Host→Peripheral)
nIORD	I/O Read Signal
nIOWRH	I/O Write (High) Signal
nIOWRL	I/O Write (Low) Signal
nIRQOP1	Interrupt Signal
nIRQOP2	Interrupt Signal
nIRQOP3	Interrupt Signal
nJAMDOR2	2nd Paper Tray Jam Access Cover Open Detection Signal
nJAMDOR3	3rd Paper Tray Jam Access Cover Open Detection Signal
nJAMDOR4	4th Paper Tray Jam Access Cover Open Detection Signal
nLDON	Laser Control
nLEDCT[0]	LED Control
nLEDCT[1]	LED Control
nLEDCT[2]	LED Control
nLEDCT[3]	LED Control
nLEDCT[4]	LED Control
nLIFT1	Lift DC Motor Ready Signal
nLIFTM2	2nd Paper Tray Lift Motor Drive Signal
nLPOW	Energy Saver Mode Control Signal
nLSFN	LSU Fan Drive
nMFPCK	Sheet Bypass Paper Detection Signal
nMFSEN4	Sheet Bypass Paper Length Detection Signal
nMIRQPDL	Interrupt Request Signal
nMMCK	Printer Motor Clock
nMMON	Printer Motor Rotation Control Signal
nMMRDY	Lift DC Motor Ready Signal

Glossary of Electrical Abbreviations	
Signal Name	**Description**
nMRCLH2	2nd Paper Tray Intermediate Roller Clutch Drive Signal
nOE	Read Enable
nOPB1	Option Detection Signal
nOPB2	Option Detection Signal
nOPB3	Option Detection Signal
nOPDUP	Duplex Unit Option Detection
nOPON	Option Detection Signal
nOPRT	Toner Waste Sensor PCB Detection
nORI	Home Position Detection Signal
nOUTA	Motor Control Signal
nOUTB	Motor Control Signal
nPCHK1	1st Paper Tray Paper Detection Signal
nPCHK2	2nd Paper Tray Paper Detection Signal
nPCHK3	3rd Paper Tray Paper Detection Signal
nPCHK4	3rd Medium Roller Drive Signal
nPDLOPT	Option Detection Signal
nPDLRST	Reset Signal
nPMON	Polygon Motor Rotation Signal
nPMRDY	Polygon Motor Ready Signal
nPNLRST	Panel Reset Signal
nPRDY	Printer Ready Signal
nPSAVE	Energy Saver Mode Transport Signal
nPSDES	Energy Saver Mode Disable Signal
nPWSW	Energy Saver LED
nRRCLH	Registration Roller Drive Signal
nPRINT	Printer On Signal
nRSEN	Registration Sensor Signal
nS/H	Sample Hold Signal
nSBSY	Status Busy Signal
nSCLK	Clock Signal
nSELIN	IEEE1284 Active (Host→Peripheral)
nSLPKY	Sleep Key Signal
nSSR	Heater Control Signal
nSTA	Status Signal
nSTB	Host Clock / Data Transfer Strobe (Host→Peripheral)
nTFSEN	Toner Waste Sensor
nTM	Toner Bottle Motor Sensor
nUPLIMIT	4th Paper Tray Paper Level Signal
nUPLIMIT1	Paper Level Signal (1st Feeder)
nVSYNC	Vertical Synchronous Signal
nWAIT[1]	BUS Wait Signal
nWAIT[2]	BUS Wait Signal
nWAIT[3]	BUS Wait Signal
nWAIT[5]	BUS Wait Signal
nWAKUP	Energy Saver Mode Enable

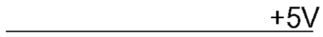
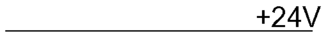
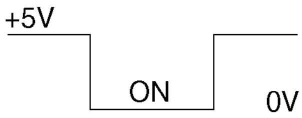
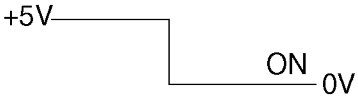
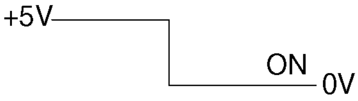
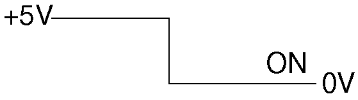
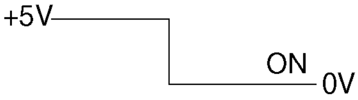
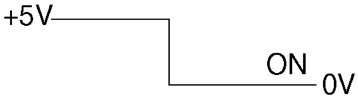
Glossary of Electrical Abbreviations	
Signal Name	**Description**
nWEH	High Enable
nWEL	Write Low Enable
OUTA	Motor Control Signal
OUTB	Motor Control Signal
pAB1SN	ADF Cover Open Detection Signal
pADF2A	2nd Feed Roller Drive Signal
pADF3A	3rd Feed Roller Drive Signal
pADF4A	4th Feed Roller Drive Signal
pBTHP	Photo Sensor DC Drive Voltage
pCMLD	Line Switching Relay Drive Signal
PD[0]	Data Signal
PD[1]	Data Signal
PD[10]	Data Signal
PD[11]	Data Signal
PD[12]	Data Signal
PD[13]	Data Signal
PD[14]	Data Signal
PD[15]	Data Signal
PD[2]	Data Signal
PD[3]	Data Signal
PD[4]	Data Signal
PD[5]	Data Signal
PD[6]	Data Signal
PD[7]	Data Signal
PD[8]	Data Signal
PD[9]	Data Signal
PE	Acknowledge Data Request / Paper Empty Condition (Peripheral→Host)
pLDCTL	Laser Control
pLED[0]	LED Data
pLED[1]	LED Data
pLED[2]	LED Data
pLED[4]	LED Data
pLED[5]	LED Data
pLED[6]	LED Data
pLED[7]	LED Data
pLIFT2	2nd Lift DC Motor Drive Signal
pLIFT3	3rd Feed Roller Drive Signal
pLIFT4	4th Lift DC Motor Drive Signal
PLH	+5V Pull Up
pLPRST	LP Reset Signal
PMCK	Polygon Motor Clock
pMRCLH2A	2nd Medium Roller Drive Signal
pMRCLH3A	3rd Medium Roller Drive Signal
pMRCLH4A	4th Medium Roller Drive Signal
PNLRXD	Reception Signal

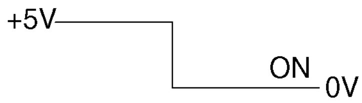
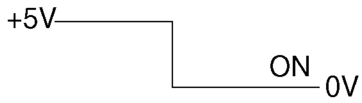
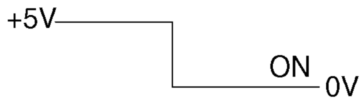
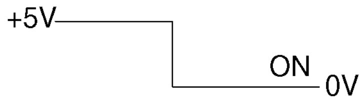
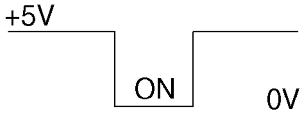
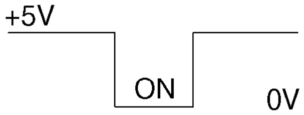
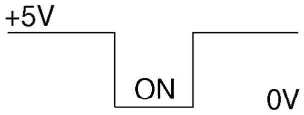
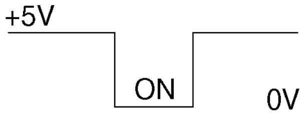
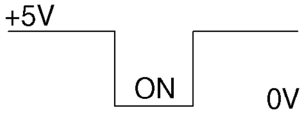
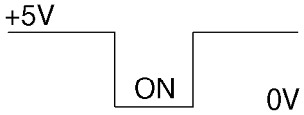
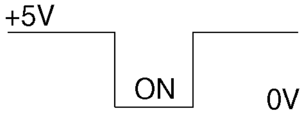
Glossary of Electrical Abbreviations	
Signal Name	**Description**
PNLTXD	Transmission Signal
pOP1RST	Reset Signal
pOP2RST	Reset Signal
pOP3RST	Reset Signal
pPDLREQ	Direct Memory Access Data Request Signal
pUPLIMIT2	2nd Lift DC Motor Ready Signal
pUPLIMIT3	3rd Lift DC Motor Ready Signal
pUPLIMIT4	4th Lift DC Motor Ready Signal
pZCIN	Heater Control Signal
RCV (+)	Handset Receiver
RCV (-)	Handset Receiver
RDM	Reception Data "-" Signal
RDP	Reception Data "+" Signal
RDY / nBSY	Not Used
RSV	Not Used
RXD	Reception Data Signal
SCN[0]	Key Scan Signal
SCN[1]	Key Scan Signal
SCN[2]	Key Scan Signal
SCN[3]	Key Scan Signal
SCN[4}	Key Scan Signal
SCN[5]	Key Scan Signal
SCN[6]	Key Scan Signal
SCN[7]	Key Scan Signal
SCN[8]	Key Scan Signal
SELECT	Select Signal (Peripheral→Host)
SMEMID[0]	Memory ID
SMEMID[1]	Memory ID
SMEMID[2]	Memory ID
SMEMID[3]	Memory ID
SWCT0	One Touch Choice
SWCT1	One Touch Choice
T1	Line Signal
T2	Line Signal
TDM	Transmission Data "-" Signal
TDP	Transmission Data "+" Signal
TFLED	Photo Sensor DC Drive Voltage
THERM1	Thermistor Output Signal
THERM2	Ground
TLCNT	Energy Saver LED
TONERSEN	Toner Sensor Signal
TR0	Transfer Control Cleaning Output
TR1	Transfer Control Transfer Output
TRCP	+2.5 VDC Power Supply
VCC	+5 VDC Power Supply

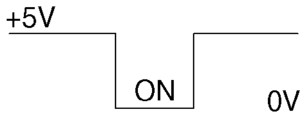
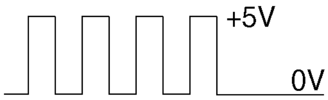
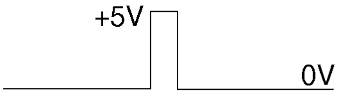
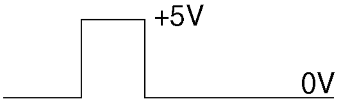
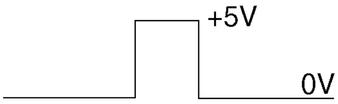
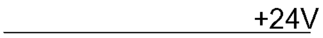
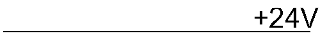
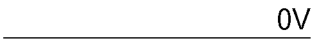
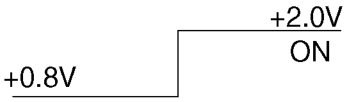
Glossary of Electrical Abbreviations	
Signal Name	**Description**
VOUT1	Graphic Data Output
VOUT2	Graphic Data Output
VPP2	Not Used

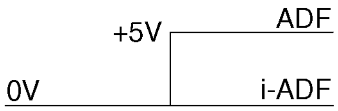
3.6. SC PC Board

CN3

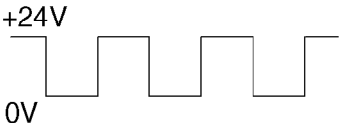
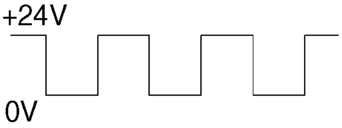
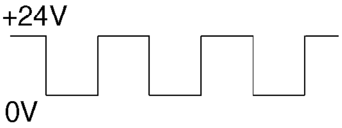
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN3-1	+5VP	ADF PCB CN21-1		+5 VDC Power Supply
CN3-2	MGND	ADF PCB CN21-2		Ground
CN3-3	GND	ADF PCB CN21-3		Ground
CN3-4	+24V	ADF PCB CN21-4		+24 VDC Power Supply
CN3-5	nAAPNT	ADF PCB CN21-5		Original Detection Signal L: Detect
CN3-6	N.C.	ADF PCB CN21-6		Not Used
CN3-7	nAB4S	ADF PCB CN21-7		Original Width Detection Signal L: Detect
CN3-8	nAA3S	ADF PCB CN21-8		Original Width Detection Signal L: Detect
CN3-9	nAADL1	ADF PCB CN21-9		Original Length Detection Signal L: Detect
CN3-10	nAADL2	ADF PCB CN21-10		Original Length Detection Signal L: Detect
CN3-11	nAB2SN	ADF PCB CN21-11		Duplex Eject Detection Signal L: Detect

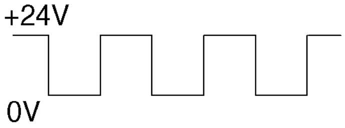
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN3-12	nAB1SN	ADF PCB CN21-12		Read Point Detection Signal L: Detect
CN3-13	nAEJC	ADF PCB CN21-13		Original Eject Detection Signal L: Detect
CN3-14	nAREV	ADF PCB CN21-14		ADF Exit Cover Open Detection Signal L: Detect
CN3-15	nAOAC	ADF PCB CN21-15		ADF Cover Open Detection Signal L: Detect
CN3-16	nAKEEP1	ADF PCB CN21-16		ADF Document Stopper Solenoid Control Signal
CN3-17	nAKEEP2	ADF PCB CN21-17		ADF Document Stopper Solenoid Control Signal
CN3-18	nAPACHG	ADF PCB CN21-18		Duplex 2 Guide Solenoid Control Signal
CN3-19	nAPICR	ADF PCB CN21-19		Release Lever Plate Solenoid Control Signal
CN3-20	nASTAMP	ADF PCB CN21-20		ADF Stamp Solenoid Control Signal
CN3-21	nACLH1	ADF PCB CN21-21		Feed 2 Roller Clutch Control Signal
CN3-22	nACLH2	ADF PCB CN21-22		Paper Feed Roller Clutch Control Signal

SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN3-23	nACLH3	ADF PCB CN21-23		Inverting Roller Clutch Control Signal
CN3-24	nACLOCKAD1	ADF PCB CN21-24		ADF Motor Control Clock Signal
CN3-25	nASTROAD1	ADF PCB CN21-25		ADF Motor Control Strobe Signal
CN3-26	pADATA1A	ADF PCB CN21-26		ADF Motor Control Signal
CN3-27	pADATA1B	ADF PCB CN21-27		ADF Motor Control Signal
CN3-28	+24V	ADF PCB CN21-28		+24 VDC Power Supply
CN3-29	GND	ADF PCB CN21-29		Ground
CN3-30	+24V	ADF PCB CN21-30		+24 VDC Power Supply
CN3-31	GND	ADF PCB CN21-31		Ground
CN3-32	DAA1	ADF PCB CN21-32		ADF Motor Current Control Signal
CN3-33	MGND	ADF PCB CN21-33		Ground
CN3-34	MGND	ADF PCB CN21-34		Ground

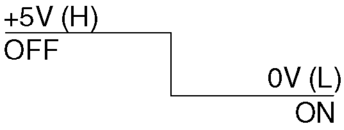
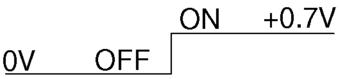
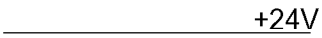
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN3-35	GND	ADF PCB CN21-35	0V	Ground
CN3-36	nDADFON	ADF PCB CN21-36		ADF Option Detection Signal H: ADF Option Installed L: i-ADF Option Installed
CN3-37	+24V	ADF PCB CN21-37	+24V	+24 VDC Power Supply
CN3-38	MGND	ADF PCB CN21-38	0V	Ground
CN3-39	+5V	ADF PCB CN21-39	+5V	+5 VDC Power Supply
CN3-40	+5V	ADF PCB CN21-40	+5V	+5 VDC Power Supply

CN8

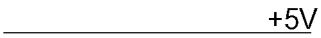
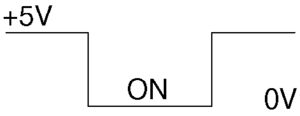
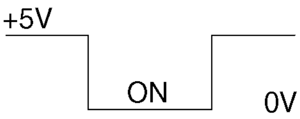
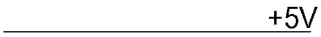
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN8-1	OUTA	Stepping Motor		Motor Control Signal
CN8-2	+24V	Stepping Motor	+24V	+24 VDC Power Supply
CN8-3	nOUTA	Stepping Motor		Motor Control Signal
CN8-4	OUTB	Stepping Motor		Motor Control Signal
CN8-5	+24V	Stepping Motor	+24V	+24 VDC Power Supply

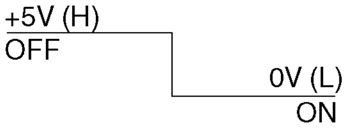
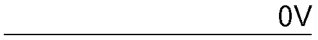
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN8-6	nOUTB	Stepping Motor		Motor Control Signal

CN9

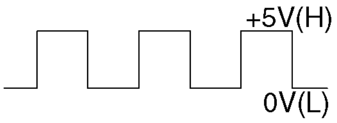
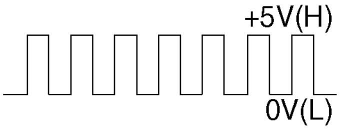
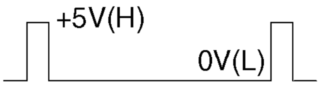
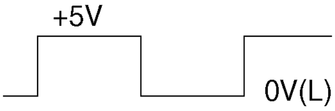
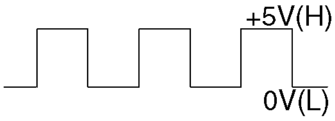
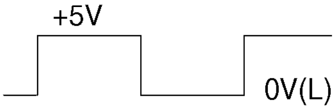
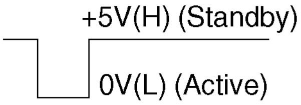
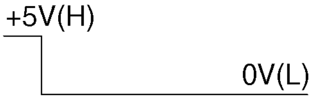
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN9-1	nFLON	INV PCB CN1-1		Inverter Ground
CN9-2	FLNG	INV PCB CN1-2		Inverter Control Signal
CN9-3	+24V	INV PCB CN1-3		+24 VDC Power Supply

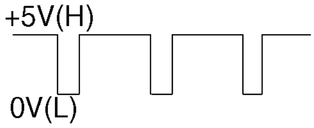
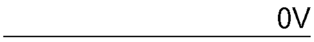
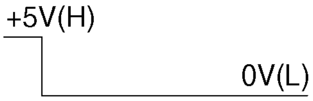
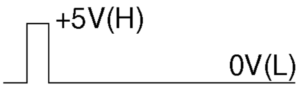
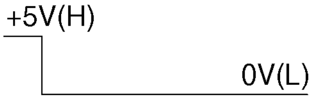
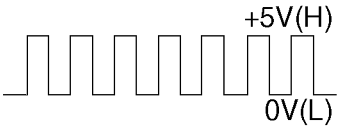
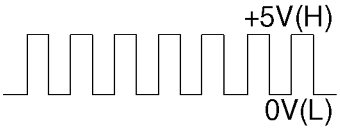
CN10

SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN10-1	+5VP	SNS PCB CN41-1		+5 VDC Power Supply
CN10-2	nANG	SNS PCB CN41-2		Platen Cover Angle
CN10-3	GND	SNS PCB CN41-3		Ground
CN10-4	nBDOOR	SNS PCB CN41-4		Platen Cover Open Detection Signal L: Open
CN10-5	N.C.			Not Used
CN10-6	+5V	Home Position Sensor		+5 VDC Power Supply

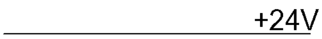
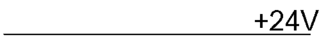
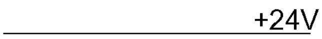
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN10-7	nORI	Home Position Sensor	 +5V (H) OFF 0V (L) ON	Home Position Detection Signal
CN10-8	GND	Home Position Sensor		Ground

CN100

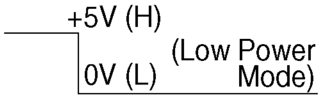
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN100-1	nSTA	LPC3 PCB CN704-1		Status Signal
CN100-2	nSCLK	LPC3 PCB CN704-2		Clock Signal
CN100-3	nVSYNC	LPC3 PCB CN704-3		Vertical Synchronous Signal
CN100-4	nSBSY	LPC3 PCB CN704-4		Status Busy Signal H: Status Not Busy L: Status Busy
CN100-5	nCMD	LPC3 PCB CN704-5		Command Signal
CN100-6	nCMDBSY	LPC3 PCB CN704-6		Command Busy Signal H: Command Not Busy L: Command Busy
CN100-7	nPRINT	LPC3 PCB CN704-7	 +5V(H) (Standby) 0V(L) (Active)	Printer On Signal
CN100-8	nPRDY	LPC3 PCB CN704-8		Printer Ready Signal H: Not Ready L: Ready

SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN100-9	nHSYNC	LPC3 PCB CN704-9		Horizontal Synchronous Signal
CN100-10	GND	LPC3 PCB CN704-10		Ground
CN100-11	nFEED	LPC3 PCB CN704-11		Feed Signal
CN100-12	GND	LPC3 PCB CN704-12		Ground
CN100-13	pLPRST	LPC3 PCB CN704-13		LP Reset Signal H: Reset L: Not Reset
CN100-14	nFEDBSY	LPC3 PCB CN704-14		Feed Busy Signal H: Feed Not Busy L: Feed Busy
CN100-15	DRCLK	LPC3 PCB CN704-15		LSU Clock
CN100-16	CRCLK	LPC3 PCB CN704-16		Clock Signal

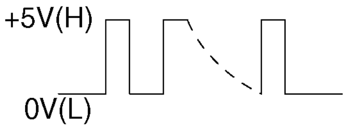
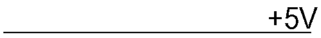
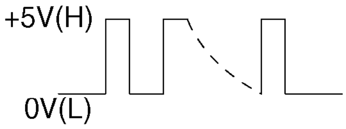
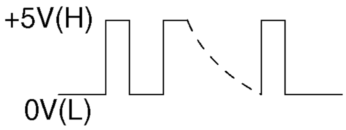
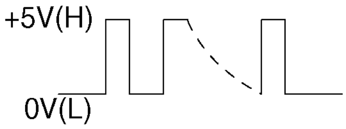
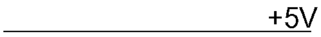
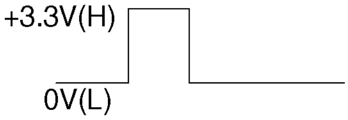
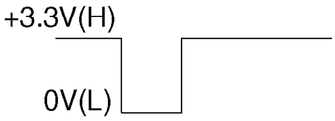
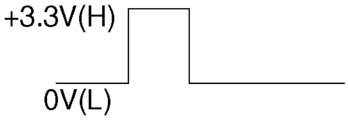
CN101

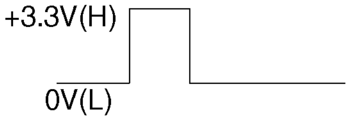
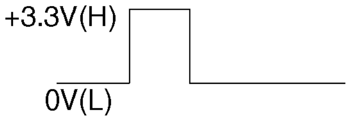
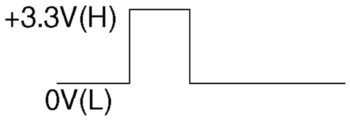
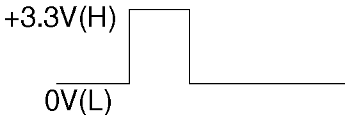
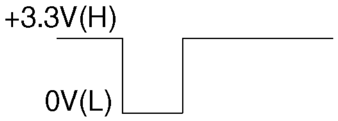
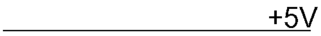
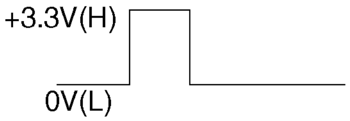
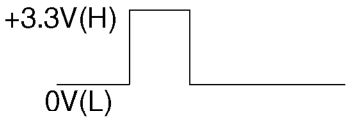
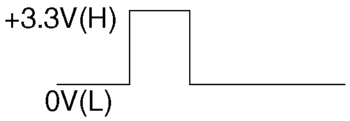
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN101-1	+24V	LVPS PCB CN61-1		+24 VDC Power Supply
CN101-2	+24V	LVPS PCB CN61-2		+24 VDC Power Supply
CN101-3	+24V	LVPS PCB CN61-3		+24 VDC Power Supply

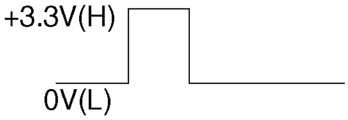
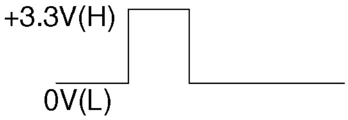
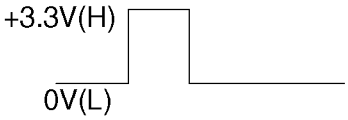
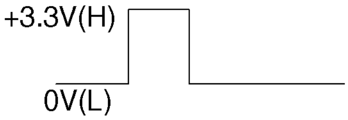
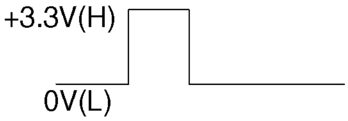
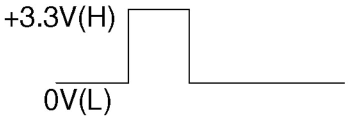
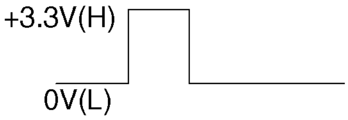
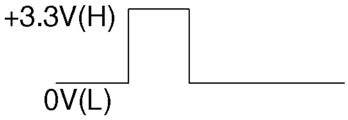
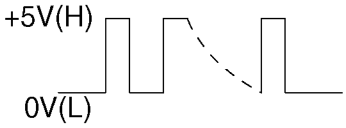
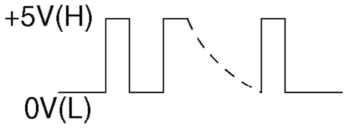
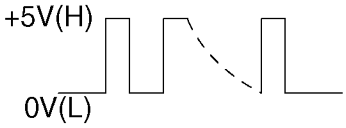
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN101-4	MGND	LVPS PCB CN61-4	0V	Ground
CN101-5	MGND	LVPS PCB CN61-5	0V	Ground
CN101-6	MGND	LVPS PCB CN61-6	0V	Ground
CN101-7	+5V	LVPS PCB CN61-7	+5V	+5 VDC Power Supply
CN101-8	+5V	LVPS PCB CN61-8	+5V	+5 VDC Power Supply
CN101-9	GND	LVPS PCB CN61-9	0V	Ground
CN101-10	GND	LVPS PCB CN61-10	0V	Ground
CN101-11	+12V	LVPS PCB CN61-11	+12V	+12 VDC Power Supply
CN101-12	AGND	LVPS PCB CN61-12	0V	Ground
CN101-13	-12V	LVPS PCB CN61-13	-12V	-12 VDC Power Supply
CN101-14	AGND	LVPS PCB CN61-14	0V	Ground
CN101-15	+5VP	LVPS PCB CN61-15	+5V	+5 VDC Power Supply

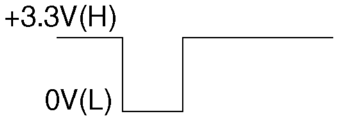
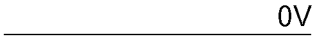
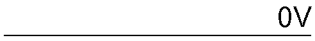
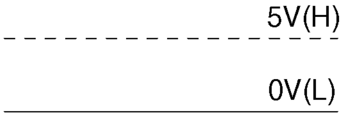
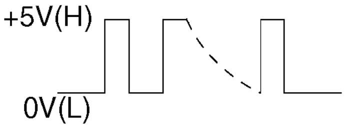
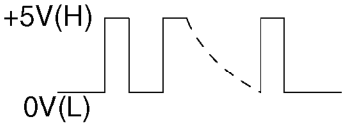
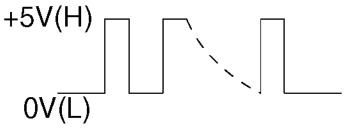
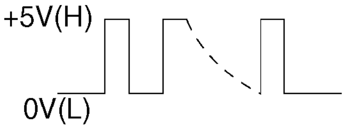
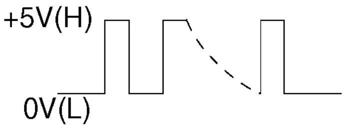
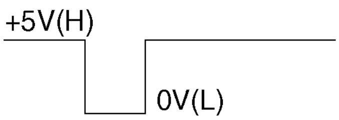
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN101-16	nLPOW1	LVPS PCB CN61-16	 +5V (H) 0V (L) (Low Power Mode)	Energy Saver Mode Control Signal

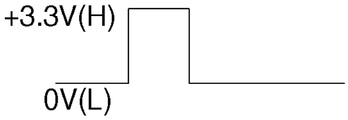
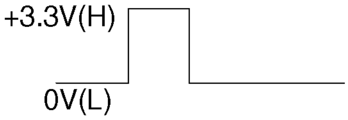
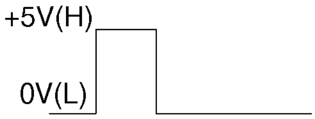
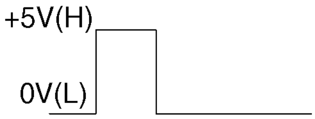
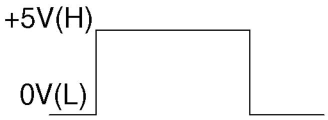
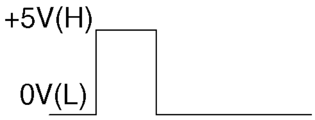
CN104

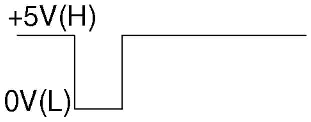
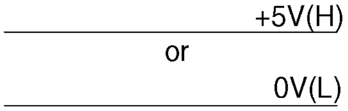
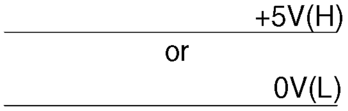
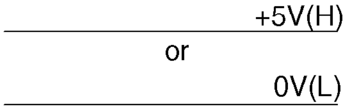
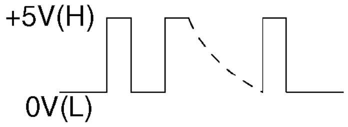
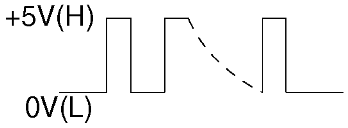
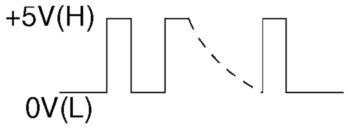
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN104-1	GND	Flash Memory Card		Ground
CN104-2	D3	Flash Memory Card		Data Signal
CN104-3	D4	Flash Memory Card		Data Signal
CN104-4	D5	Flash Memory Card		Data Signal
CN104-5	D6	Flash Memory Card		Data Signal
CN104-6	D7	Flash Memory Card		Data Signal
CN104-7	nCE1	Flash Memory Card		+5 VDC Power Supply
CN104-8	A10	Flash Memory Card		Address Signal
CN104-9	nOE	Flash Memory Card		Read Enable H: Read Disable L: Read Enable
CN104-10	A11	Flash Memory Card		Address Signal

SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN104-11	A9	Flash Memory Card		Address Signal
CN104-12	A8	Flash Memory Card		Address Signal
CN104-13	A13	Flash Memory Card		Address Signal
CN104-14	A14	Flash Memory Card		Address Signal
CN104-15	nWEL	Flash Memory Card		Write Low Enable H: Write Disable L: Write Enable
CN104-16	RDY / nBSY	Flash Memory Card		Not Used
CN104-17	VCC	Flash Memory Card		+5 VDC Power Supply
CN104-18	N.C.	Flash Memory Card		Not Used
CN104-19	A16	Flash Memory Card		Address Signal
CN104-20	A15	Flash Memory Card		Address Signal
CN104-21	A12	Flash Memory Card		Address Signal

SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN104-22	A7	Flash Memory Card		Address Signal
CN104-23	A6	Flash Memory Card		Address Signal
CN104-24	A5	Flash Memory Card		Address Signal
CN104-25	A4	Flash Memory Card		Address Signal
CN104-26	A3	Flash Memory Card		Address Signal
CN104-27	A2	Flash Memory Card		Address Signal
CN104-28	A1	Flash Memory Card		Address Signal
CN104-29	A0	Flash Memory Card		Address Signal
CN104-30	D0	Flash Memory Card		Data Signal
CN104-31	D1	Flash Memory Card		Data Signal
CN104-32	D2	Flash Memory Card		Data Signal

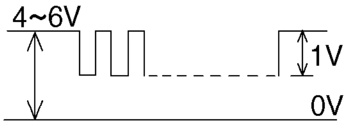
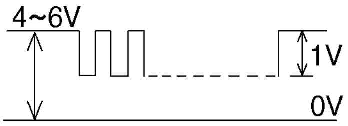
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN104-33	nWEH	Flash Memory Card		High Enable H: Disable L: Enable
CN104-34	GND	Flash Memory Card		Ground
CN104-35	GND	Flash Memory Card		Ground
CN104-36	nCD	Flash Memory Card		Flash Card ID H: Card Not Installed L: Card Installed
CN104-37	D11	Flash Memory Card		Data Signal
CN104-38	D12	Flash Memory Card		Data Signal
CN104-39	D13	Flash Memory Card		Data Signal
CN104-40	D14	Flash Memory Card		Data Signal
CN104-41	D15	Flash Memory Card		Data Signal
CN104-42	nCE2	Flash Memory Card		Low Enable
CN104-43	N.C.	Flash Memory Card		Not Used

SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN104-44	RSV	Flash Memory Card		Not Used
CN104-45	RSV	Flash Memory Card		Not Used
CN104-46	A17	Flash Memory Card		Address Signal
CN104-47	A18	Flash Memory Card		Address Signal
CN104-48	A19	Flash Memory Card		Address Signal
CN104-49	A20	Flash Memory Card		Address Signal
CN104-50	A21	Flash Memory Card		Memory Area Switching Signal
CN104-51	VCC	Flash Memory Card		+5 VDC Power Supply
CN104-52	VPP2	Flash Memory Card		Not Used
CN104-53	A22	Flash Memory Card		Address Signal
CN104-54	N.C.	Flash Memory Card		Not Used
CN104-55	N.C.	Flash Memory Card		Not Used

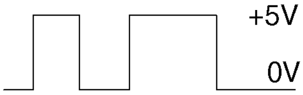
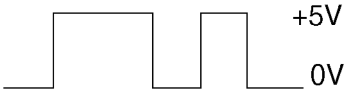
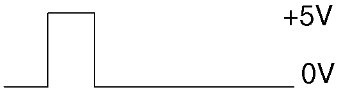
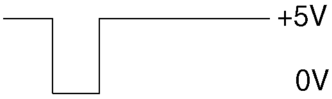
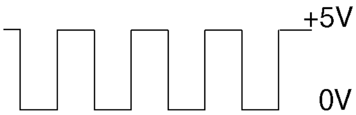
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN104-56	N.C.	Flash Memory Card		Not Used
CN104-57	RSV	Flash Memory Card		Not Used
CN104-58	nRST	Flash Memory Card		Reset Signal H: Not Reset L: Reset
CN104-59	nMB8	Flash Memory Card		Memory Version Detection Signal
CN104-60	RSV	Flash Memory Card		Not Used
CN104-61	N.C.	Flash Memory Card		Not Used
CN104-62	nID2	Flash Memory Card		Flash Card ID
CN104-63	nID1	Flash Memory Card		Flash Card ID
CN104-64	D8	Flash Memory Card		Data Signal
CN104-65	D9	Flash Memory Card		Data Signal
CN104-66	D10	Flash Memory Card		Data Signal

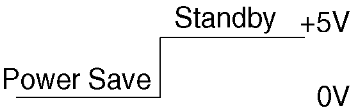
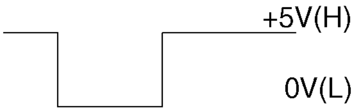
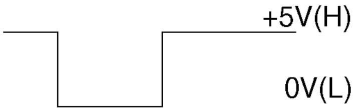
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN104-67	nID0	Flash Memory Card	+5V(H) or 0V(L)	Flash Card ID
CN104-68	GND	Flash Memory Card	0V	Ground

CN106

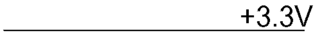
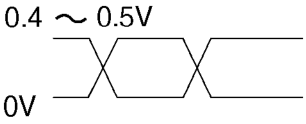
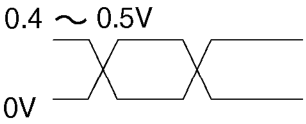
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN106-1	AGND	CCD PCB CN51-9	0V	Ground
CN106-2	AGND	CCD PCB CN51-10	0V	Ground
CN106-3	VOUT2	CCD PCB CN51-12		Graphic Data Output
CN106-4	AGND	CCD PCB CN51-11	0V	Ground
CN106-5	AGND	CCD PCB CN51-13	0V	Ground
CN106-6	VOUT1	CCD PCB CN51-14		Graphic Data Output
CN106-7	AGND	CCD PCB CN51-16	0V	Ground
CN106-8	+12V	CCD PCB CN51-15	+12V	+12 VDC Power Supply

CN108

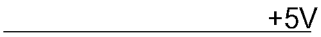
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN108-1	+24V	PNL6-1 PCB CN201-1	+24V	+24 VDC Power Supply
CN108-2	+5VP	PNL6-1 PCB CN201-2	+5V	+5 VDC Pilot Power Supply, that provides power to the active components during the Sleep Mode.
CN108-3	+5V	PNL6-1 PCB CN201-3	+5V	+5 VDC Power Supply
CN108-4	GND	PNL6-1 PCB CN201-4	0V	Ground
CN108-5	GND	PNL6-1 PCB CN201-5	0V	Ground
CN108-6	GND	PNL6-1 PCB CN201-6	0V	Ground
CN108-7	PNLRXD	PNL6-1 PCB CN201-7		Reception Signal
CN108-8	PNLTXD	PNL6-1 PCB CN201-8		Transmission Signal
CN108-9	nPNLRST	PNL6-1 PCB CN201-9		Panel Reset Signal H: Reset L: Not Reset
CN108-10	nWAKUP	PNL6-1 PCB CN201-10		Energy Saver Mode Enable H: Disable L: Enable
CN108-11	BZCK	PNL6-1 PCB CN201-11		Buzzer Signal

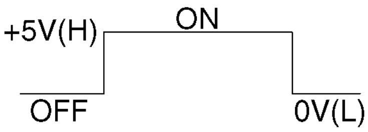
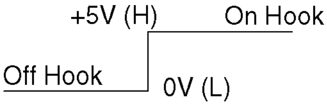
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN108-12	nPSAVE	PNL6-1 PCB CN201-12		Energy Saver Mode Transport Signal
CN108-13	BATVOL	PNL6-1 PCB CN201-13	0V ~ +3V	Battery Voltage
CN108-14	nSLPKY	PNL6-1 PCB CN201-14		Sleep Key Signal
CN108-15	+5VPRST	PNL6-1 PCB CN201-15		Panel Reset Signal L: Reset

CN110

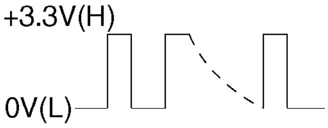
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN110-1	+3.3V	LSU CN810-1		+3.3 VDC Power Supply
CN110-2	GND	LSU CN810-2		Ground
CN110-3	+VDO	LSU CN810-3		Video Signal (LVPS + Output)
CN110-4	-VDO	LSU CN810-4		Video Signal (LVPS - Output)

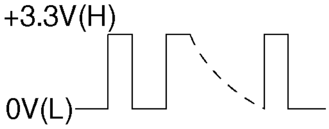
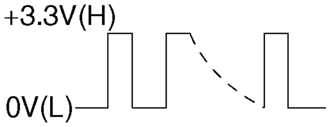
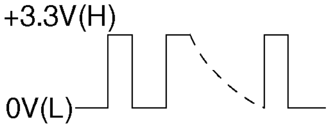
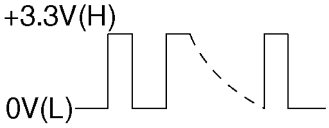
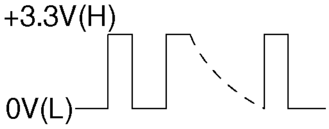
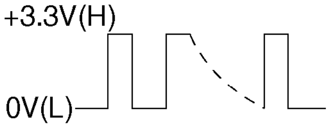
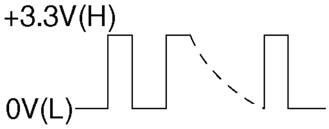
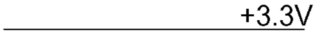
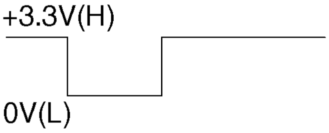
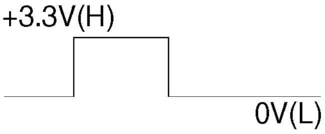
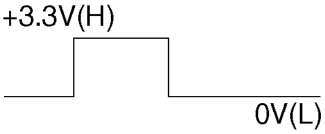
CN111 (Except DP-1510P/1810P)

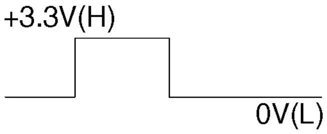
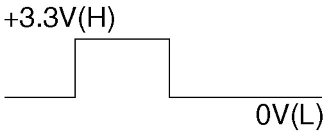
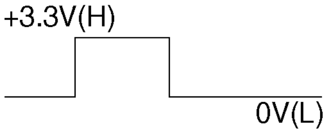
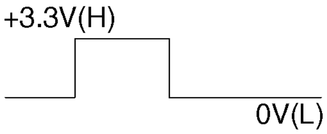
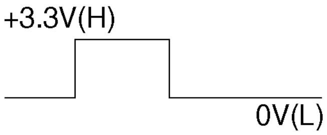
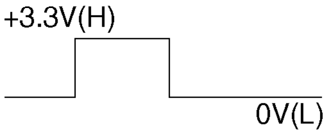
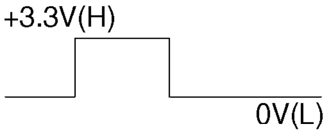
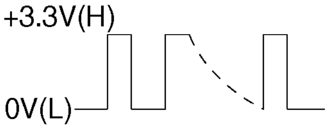
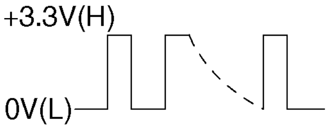
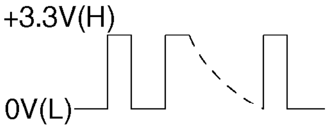
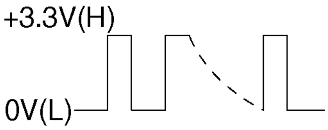
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN111-1	N.C.			Not Used
CN111-2	+5VP	MJR PCB CN25-1		+5 VDC Power Supply

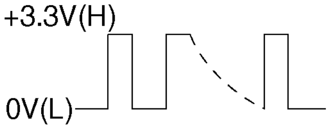
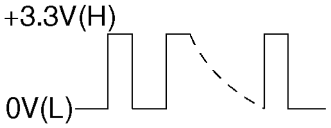
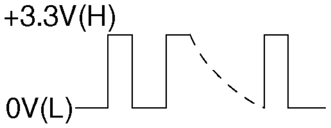
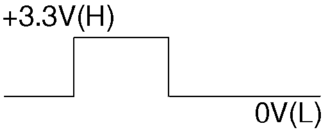
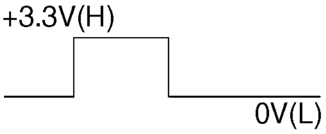
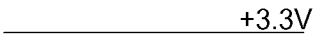
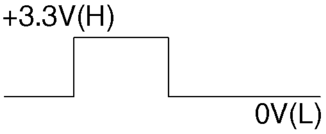
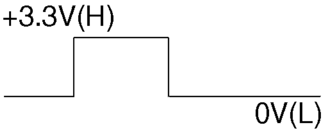
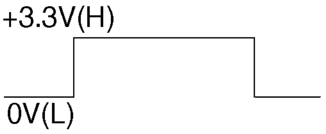
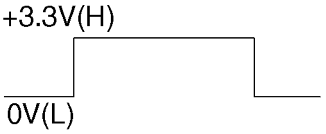
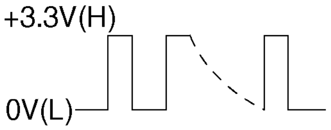
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN111-3	GND	MJR PCB CN25-2	0V	Ground
CN111-4	+24V	MJR PCB CN25-3	+24V	+24 VDC Power Supply
CN111-5	pCMLD	MJR PCB CN25-4		Line Switching Relay Drive Signal
CN111-6 -8	N.C.			Not Used
CN111-9	nHKOF	MJR PCB CN25-5		External Phone Off-Hook Detection Signal
CN111-10	nCTON	MJR PCB CN25-6	H: Standby Mode L: Ringing	Ring Detection Signal
CN111-11	N.C.			Not Used
CN111-12	AGND	MJR PCB CN25-7	0V	Ground
CN111-13-15	N.C.			Not Used

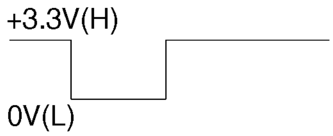
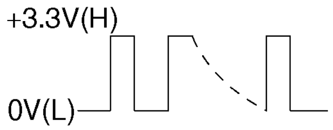
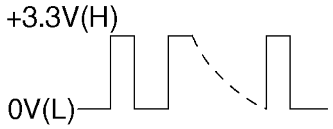
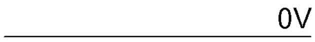
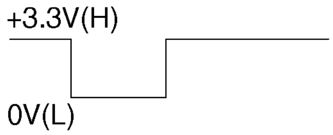
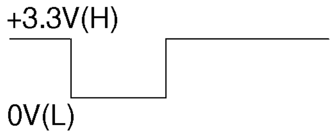
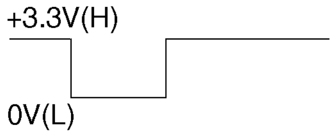
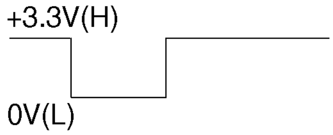
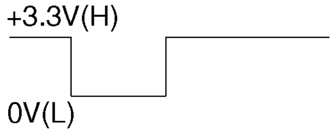
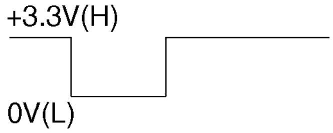
CN113

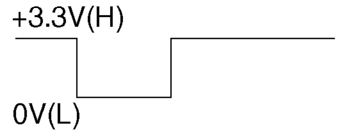
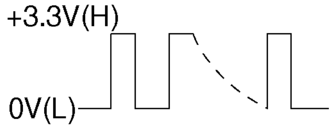
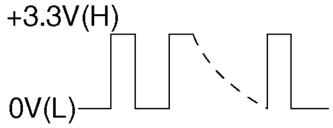
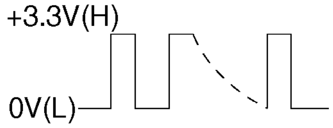
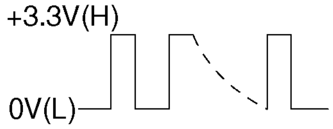
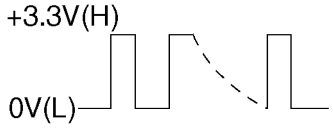
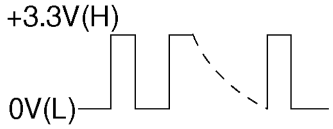
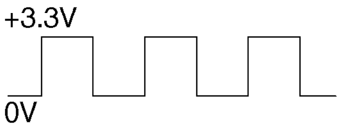
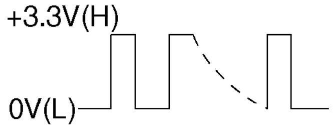
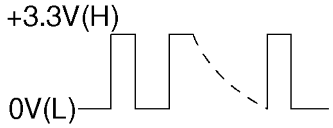
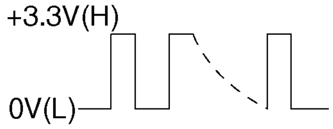
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN113-1	GND	SDRM	0V	Ground
CN113-2	BMD[0]	SDRM		Data Signal

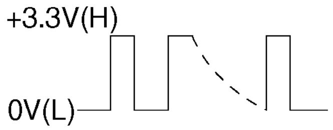
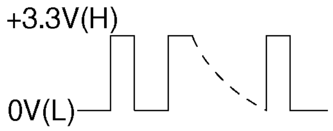
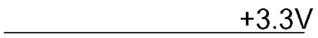
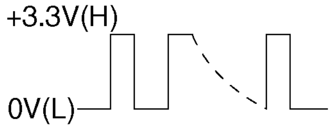
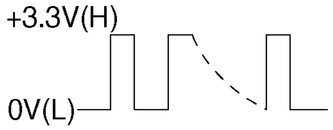
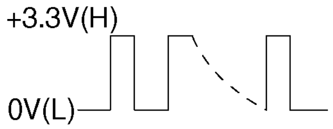
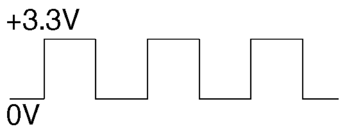
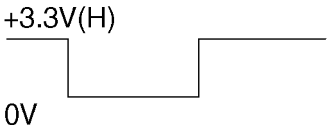
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN113-3	BMD[1]	SDRM		Data Signal
CN113-4	BMD[2]	SDRM		Data Signal
CN113-5	BMD[3]	SDRM		Data Signal
CN113-6	BMD[4]	SDRM		Data Signal
CN113-7	BMD[5]	SDRM		Data Signal
CN113-8	BMD[6]	SDRM		Data Signal
CN113-9	BMD[7]	SDRM		Data Signal
CN113-10	+3.3V	SDRM		+3.3 VDC Power Supply
CN113-11	nBDQMH	SDRM		Input/Output Mask Signal
CN113-12	BMA[0]	SDRM		Address Signal
CN113-13	BMA[1]	SDRM		Address Signal

SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN113-14	BMA[2]	SDRM		Address Signal
CN113-15	BMA[3]	SDRM		Address Signal
CN113-16	BMA[4]	SDRM		Address Signal
CN113-17	BMA[5]	SDRM		Address Signal
CN113-18	BMA[6]	SDRM		Address Signal
CN113-19	BMA[10]	SDRM		Address Signal
CN113-20	BMA[11]	SDRM		Address Signal
CN113-21	BMD[8]	SDRM		Data Signal
CN113-22	BMD[9]	SDRM		Data Signal
CN113-23	BMD[10]	SDRM		Data Signal
CN113-24	BMD[11]	SDRM		Data Signal

SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN113-25	BMD[12]	SDRM		Data Signal
CN113-26	BMD[13]	SDRM		Data Signal
CN113-27	BMD[14]	SDRM		Data Signal
CN113-28	BMA[7]	SDRM		Address Signal
CN113-29	BMA[12]	SDRM		Address Signal
CN113-30	+3.3V	SDRM		+3.3 VDC Power Supply
CN113-31	BMA[8]	SDRM		Address Signal
CN113-32	BMA[9]	SDRM		Address Signal
CN113-33	BBA[0]	SDRM		S-DRAM Memory Area Switching Signal
CN113-34	BBA[1]	SDRM		S-DRAM Memory Area Switching Signal
CN113-35	BMD[15]	SDRM		Data Signal

SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN113-36	nBDQML	SDRM		Input/Output Mask Signal
CN113-37	BMD[37]	SDRM		Data Signal
CN113-38	BMD[38]	SDRM		Data Signal
CN113-39	GND	SDRM		Ground
CN113-40	N.C.	SDRM		Not Used
CN113-41	N.C.	SDRM		Not Used
CN113-42	nBCS[2]	SDRM		Chip Select Signal
CN113-43	nBCS[3]	SDRM		Chip Select Signal
CN113-44	nBCS[4]	SDRM		Chip Select Signal
CN113-45	nBCS[5]	SDRM		Chip Select Signal
CN113-46	nBRAS	SDRM		S-DRAM Row Address Strobe Command
CN113-47	nBMWT	SDRM		S-DRAM Write Enable H: Write Disable L: Write Enable

SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN113-48	nBCAS	SDRM		S-DRAM Column Address Strobe Command
CN113-49	BMD[18]	SDRM		Data Signal
CN113-50	BMD[19]	SDRM		Data Signal
CN113-51	BMD[20]	SDRM		Data Signal
CN113-52	BMD[21]	SDRM		Data Signal
CN113-53	BMD[22]	SDRM		Data Signal
CN113-54	BMD[23]	SDRM		Data Signal
CN113-55	BDCLK[0]	SDRM		S-DRAM Access Clock
CN113-56	BMD[24]	SDRM		Data Signal
CN113-57	BMD[25]	SDRM		Data Signal
CN113-58	BMD[26]	SDRM		Data Signal

SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN113-59	BMD[27]	SDRM		Data Signal
CN113-60	BMD[28]	SDRM		Data Signal
CN113-61	+3.3V	SDRM		+3.3 VDC Power Supply
CN113-62	BMD[29]	SDRM		Data Signal
CN113-63	BMD[30]	SDRM		Data Signal
CN113-64	BMD[31]	SDRM		Data Signal
CN113-65	BDCLK[1]	SDRM		S-DRAM Access Clock
CN113-66	N.C.	SDRM		Not Used
CN113-67	nBCKE	SDRM		S-DRAM Clock Enable

SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN113-68	SMEMID[0]	SDRM	+3.3V(H) or 0V(L)	Memory ID
CN113-69	SMEMID[1]	SDRM	+3.3V(H) or 0V(L)	
CN113-70	SMEMID[2]	SDRM	+3.3V(H) or 0V(L)	
CN113-71	SMEMID[3]	SDRM	+3.3V(H) or 0V(L)	
CN113-72	GND	SDRM	0V	Ground

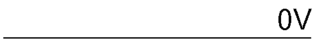
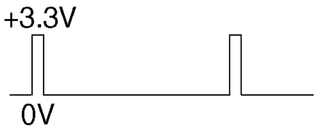
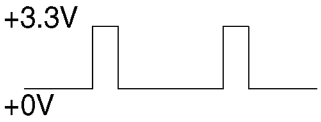
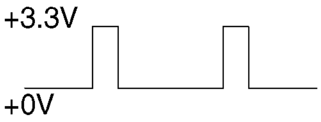
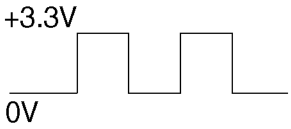
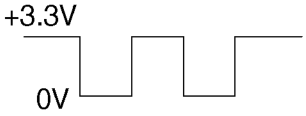
ID0	ID1	ID2	ID3	
H	H	H	H	Not Installed
L	H	H	H	8MB
L	H	H	L	16MB
L	H	L	H	128MB

CN114 (Except DP-1510P/1810P)

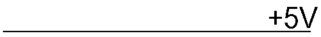
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN114-1	L2 (T)	MJR PCB CN22-1		Line Signal
CN114-2	N.C.			Not Used
CN114-3	L1 (R)	MJR PCB CN22-3		Line Signal

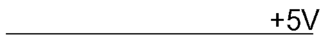
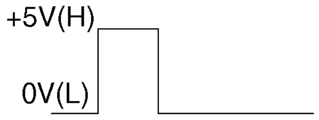
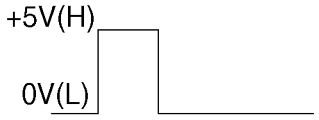
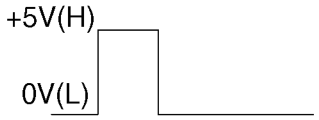
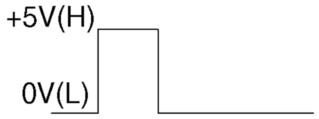
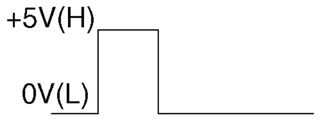
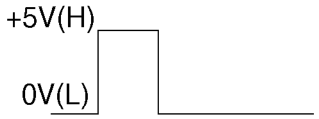
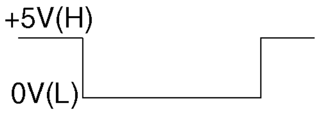
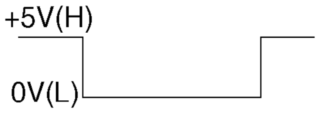
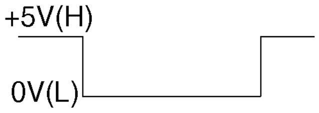
CN120

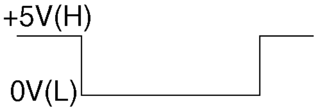
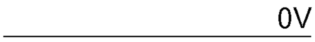
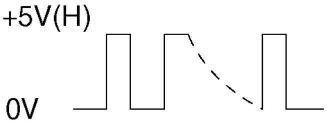
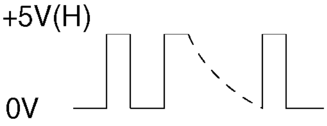
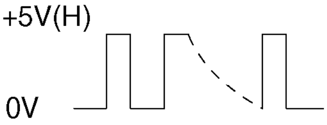
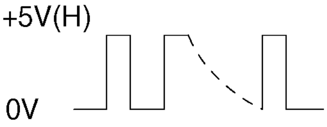
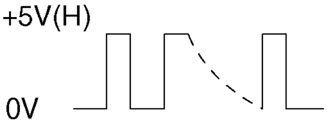
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN120-1	+5V	CCD PCB CN51-2	+5V	+5 VDC Power Supply
CN120-2	GND	CCD PCB CN51-1	0V	Ground

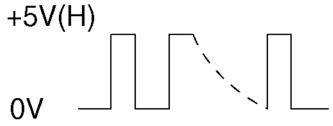
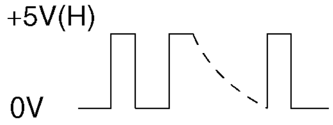
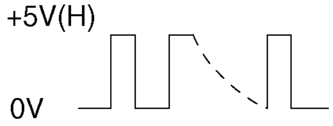
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN120-3	GND	CCD PCB CN51-6		Ground
CN120-4	FSH	CCD PCB CN51-7		Transfer Gate Clock
CN120-5	N.C.			Not Used
CN120-6	FR	CCD PCB CN51-8		Reset Gate Clock
CN120-7	N.C.			Not Used
CN120-8	FCP	CCD PCB CN51-5		Clamp Clock
CN120-9	FCK1	CCD PCB CN51-3		Shift Register Clock
CN120-10	N.C.			Not Used
CN120-11	N.C.			Not Used
CN120-12	FCK2	CCD PCB CN51-4		Shift Register Clock

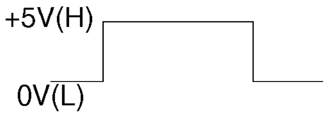
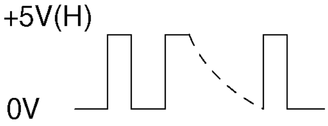
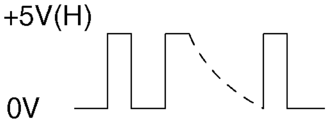
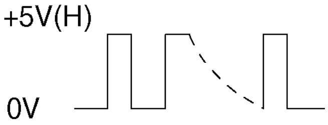
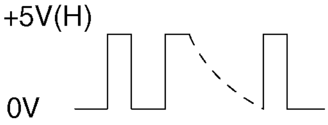
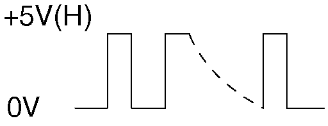
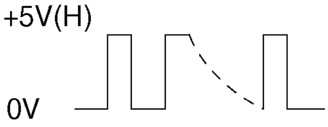
CN121

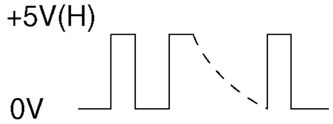
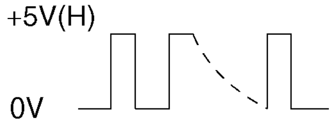
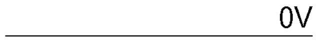
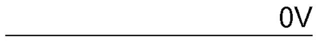
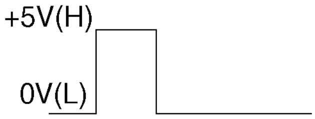
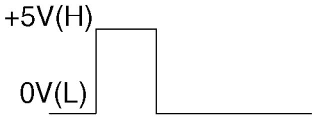
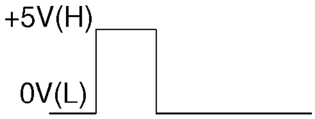
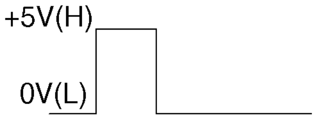
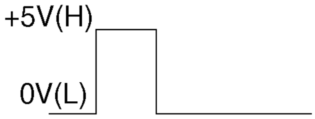
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN121-1	+5VI	EP PCB CN1-1		+5 VDC Power Supply

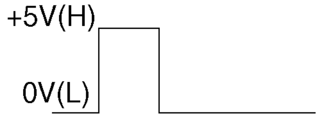
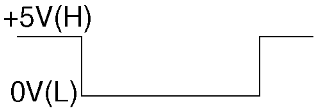
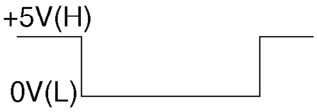
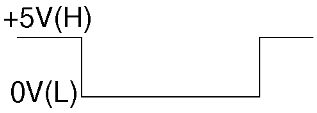
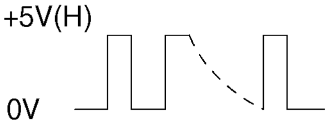
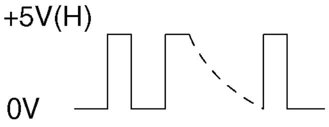
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN121-2	+5VI	EP PCB CN1-2		+5 VDC Power Supply
CN121-3	AL[1]	EP PCB CN1-3		Address Signal
CN121-4	AL[2]	EP PCB CN1-4		Address Signal
CN121-5	AL[5]	EP PCB CN1-5		Address Signal
CN121-6	AL[6]	EP PCB CN1-6		Address Signal
CN121-7	AL[9]	EP PCB CN1-7		Address Signal
CN121-8	AL[10]	EP PCB CN1-8		Address Signal
CN121-9	nWAIT[5]	EP PCB CN1-9		BUS Wait Signal
CN121-10	N.C.	EP PCB CN1-10		Not Used
CN121-11	nCS08	EP PCB CN1-11		Chip Enable Signal H: Disable L: Enable
CN121-12	nCS0E	EP PCB CN1-12		Chip Enable Signal H: Disable L: Enable

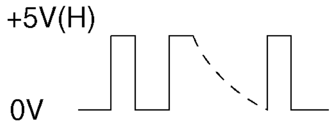
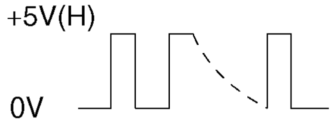
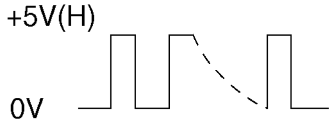
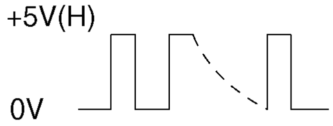
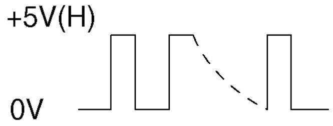
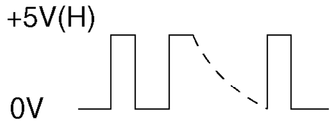
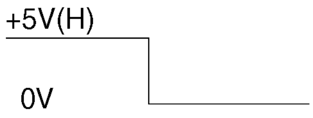
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN121-13	nIOWRH	EP PCB CN1-13		I/O Write (High) Signal H: Write Disable L: Write Enable
CN121-14	GND	EP PCB CN1-14		Ground
CN121-15	N.C.	EP PCB CN1-15		Not Used
CN121-16	N.C.	EP PCB CN1-16		Not Used
CN121-17	N.C.	EP PCB CN1-17		Not Used
CN121-18	N.C.	EP PCB CN1-18		Not Used
CN121-19	IOD[0]	EP PCB CN1-19		Data Signal
CN121-20	IOD[1]	EP PCB CN1-20		Data Signal
CN121-21	IOD[4]	EP PCB CN1-21		Data Signal
CN121-22	IOD[5]	EP PCB CN1-22		Data Signal
CN121-23	IOD[8]	EP PCB CN1-23		Data Signal

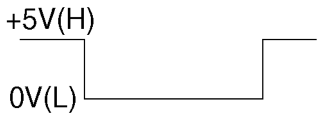
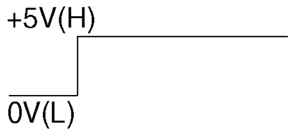
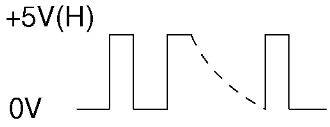
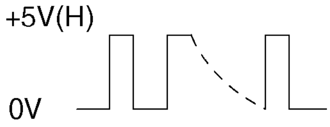
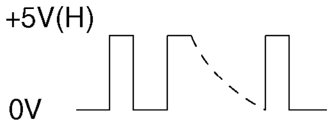
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN121-24	IOD[9]	EP PCB CN1-24		Data Signal
CN121-25	IOD[12]	EP PCB CN1-25		Data Signal
CN121-26	IOD[13]	EP PCB CN1-26		Data Signal
CN121-27	N.C.	EP PCB CN1-27		Not Used
CN121-28	N.C.	EP PCB CN1-28		Not Used
CN121-29	N.C.	EP PCB CN1-29		Not Used
CN121-30	N.C.	EP PCB CN1-30		Not Used
CN121-31	N.C.	EP PCB CN1-31		Not Used
CN121-32	N.C.	EP PCB CN1-32		Not Used
CN121-33	N.C.	EP PCB CN1-33		Not Used
CN121-34	N.C.	EP PCB CN1-34		Not Used
CN121-35	N.C.	EP PCB CN1-35		Not Used

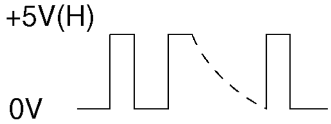
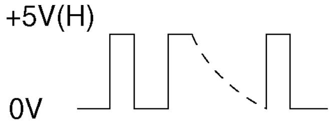
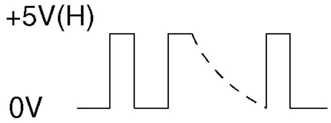
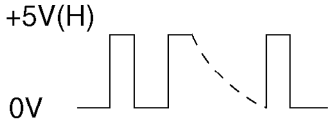
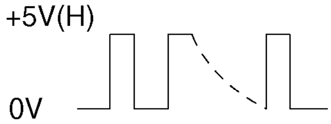
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN121-36	nPDLOPT	EP PCB CN1-36	+5V(H) or 0V(L)	Option Detection Signal H: Option Not Installed L: Option Installed
CN121-37	pPDLREQ	EP PCB CN1-37		Direct Memory Access Data Request Signal H: Enable L: Disable
CN121-38	N.C.	EP PCB CN1-38		Not Used
CN121-39	PD[0]	EP PCB CN1-39		Data Signal
CN121-40	PD[1]	EP PCB CN1-40		Data Signal
CN121-41	PD[4]	EP PCB CN1-41		Data Signal
CN121-42	PD[5]	EP PCB CN1-42		Data Signal
CN121-43	GND	EP PCB CN1-43	0V	Ground
CN121-44	GND	EP PCB CN1-44	0V	Ground
CN121-45	PD[8]	EP PCB CN1-45		Data Signal
CN121-46	PD[9]	EP PCB CN1-46		Data Signal

SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN121-47	PD[12]	EP PCB CN1-47		Data Signal
CN121-48	PD[13]	EP PCB CN1-48		Data Signal
CN121-49	GND	EP PCB CN1-49		Ground
CN121-50	GND	EP PCB CN1-50		Ground
CN121-51	GND	EP PCB CN1-51		Ground
CN121-52	GND	EP PCB CN1-52		Ground
CN121-53	AL[3]	EP PCB CN1-53		Address Signal
CN121-54	AL[4]	EP PCB CN1-54		Address Signal
CN121-55	AL[7]	EP PCB CN1-55		Address Signal
CN121-56	AL[8]	EP PCB CN1-56		Address Signal
CN121-57	AL[11]	EP PCB CN1-57		Address Signal

SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN121-58	AL[12]	EP PCB CN1-58		Address Signal
CN121-59	N.C.	EP PCB CN1-59		Not Used
CN121-60	N.C.	EP PCB CN1-60		Not Used
CN121-61	nIORD	EP PCB CN1-61		I/O Read Signal H: Read Disable L: Read Enable
CN121-62	nIOWRL	EP PCB CN1-62		I/O Write (Low) Signal H: Write Disable L: Write Enable
CN121-63	nWAIT[1]	EP PCB CN1-63		Not Used
CN121-64	N.C.	EP PCB CN1-64		Not Used
CN121-65	N.C.	EP PCB CN1-65		Not Used
CN121-66	nMIRQPDL	EP PCB CN1-66		Interrupt Request Signal H: Disable L: Enable
CN121-67	IOD[2]	EP PCB CN1-67		Data Signal
CN121-68	IOD[3]	EP PCB CN1-68		Data Signal

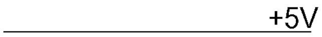
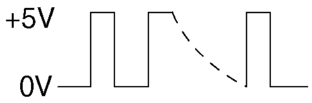
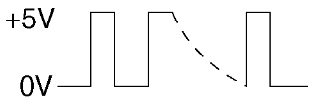
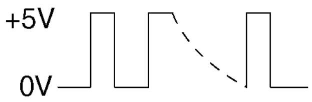
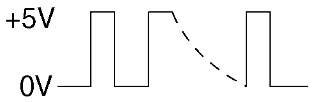
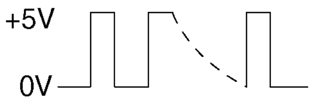
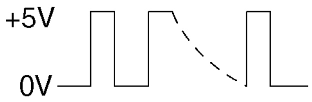
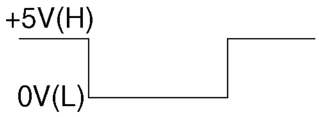
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN121-69	IOD[6]	EP PCB CN1-69		Data Signal
CN121-70	IOD[7]	EP PCB CN1-70		Data Signal
CN121-71	IOD[10]	EP PCB CN1-71		Data Signal
CN121-72	IOD[11]	EP PCB CN1-72		Data Signal
CN121-73	IOD[14]	EP PCB CN1-73		Data Signal
CN121-74	IOD[15]	EP PCB CN1-74		Data Signal
CN121-75	N.C.	EP PCB CN1-75		Not Used
CN121-76	N.C.	EP PCB CN1-76		Not Used
CN121-77	N.C.	EP PCB CN1-77		Not Used
CN121-78	N.C.	EP PCB CN1-78		Not Used
CN121-79	nPSDES	EP PCB CN1-79		Energy Saver Mode Disable Signal

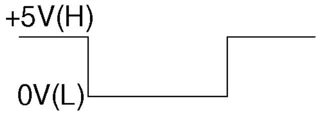
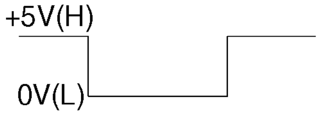
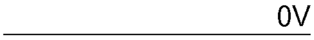
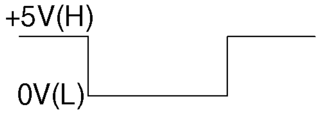
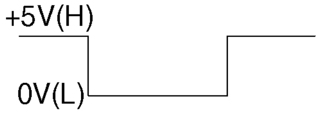
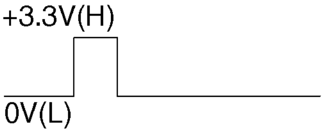
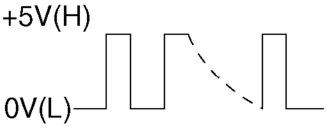
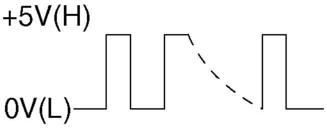
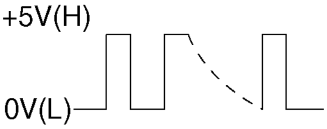
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN121-80	N.C.	EP PCB CN1-80		Not Used
CN121-81	nOPON	EP PCB CN1-81	+5V(H) or 0V(L)	Option Detection Signal H: Option Not Installed L: Option Installed
CN121-82	N.C.	EP PCB CN1-82		Not Used
CN121-83	N.C.	EP PCB CN1-83		Not Used
CN121-84	GND	EP PCB CN1-84	0V	Ground
CN121-85	GND	EP PCB CN1-85	0V	Ground
CN121-86	GND	EP PCB CN1-86	0V	Ground
CN121-87	n5VPDLRD	EP PCB CN1-87		Read Signal
CN121-88	nPDLRST	EP PCB CN1-88		Reset Signal H: Not Reset L: Reset
CN121-89	PD[2]	EP PCB CN1-89		Data Signal
CN121-90	PD[3]	EP PCB CN1-90		Data Signal
CN121-91	PD[6]	EP PCB CN1-91		Data Signal

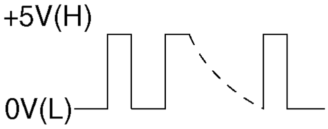
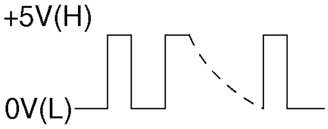
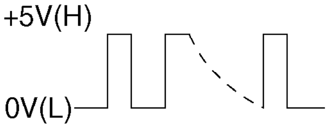
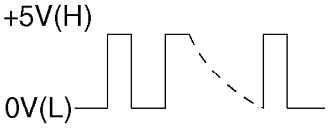
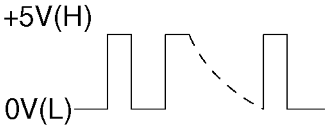
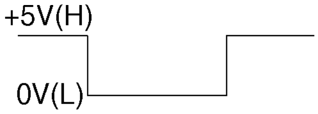
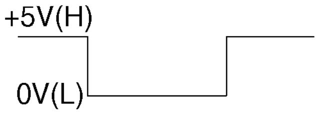
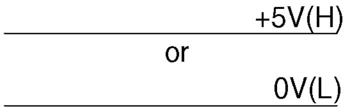
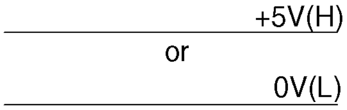
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN121-92	PD[7]	EP PCB CN1-92		Data Signal
CN121-93	GND	EP PCB CN1-93	0V	Ground
CN121-94	GND	EP PCB CN1-94	0V	Ground
CN121-95	PD[10]	EP PCB CN1-95		Data Signal
CN121-96	PD[11]	EP PCB CN1-96		Data Signal
CN121-97	PD[14]	EP PCB CN1-97		Data Signal
CN121-98	PD[15]	EP PCB CN1-98		Data Signal
CN121-99	+5V	EP PCB CN1-99	+5V	+5 VDC Power Supply
CN121-100	+5V	EP PCB CN1-100	+5V	+5 VDC Power Supply

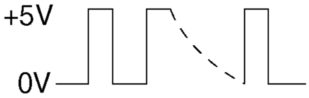
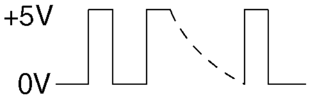
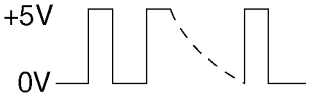
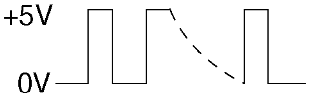
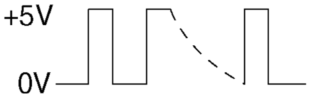
CN123

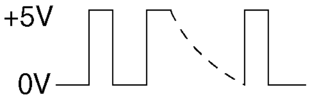
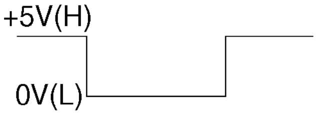
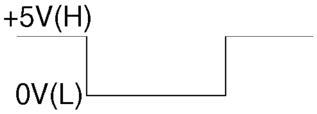
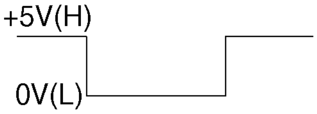
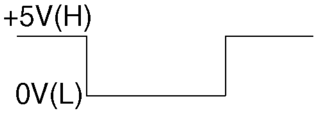
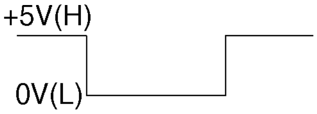
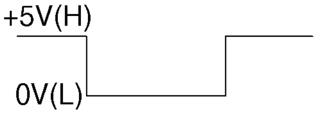
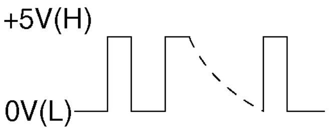
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN123-1	+5VI	G3B PCB CN131-1 or LANB PCB CN2-1	+5V	+5 VDC Power Supply

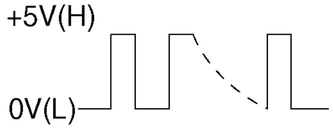
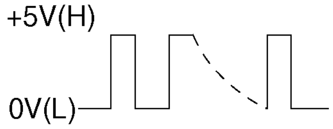
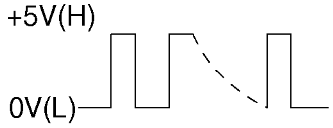
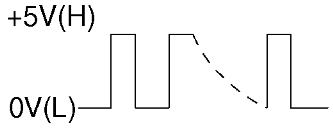
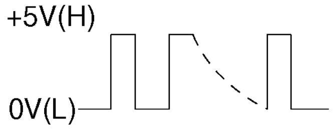
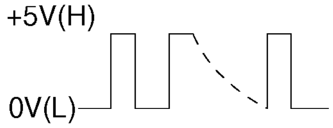
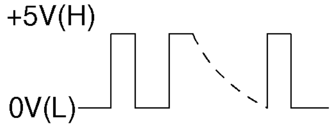
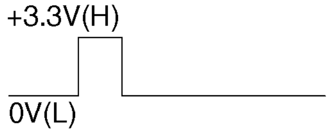
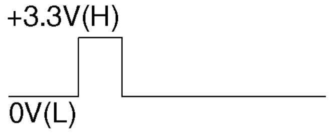
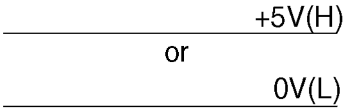
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN123-2	+5VI	G3B PCB CN131-2 or LANB PCB CN2-2		+5 VDC Power Supply
CN123-3	AL[1]	G3B PCB CN131-3 or LANB PCB CN2-3		Address Signal
CN123-4	AL[2]	G3B PCB CN131-4 or LANB PCB CN2-4		Address Signal
CN123-5	AL[5]	G3B PCB CN131-5 or LANB PCB CN2-5		Address Signal
CN123-6	AL[6]	G3B PCB CN131-6 or LANB PCB CN2-6		Address Signal
CN123-7	AL[9]	G3B PCB CN131-7 or LANB PCB CN2-7		Address Signal
CN123-8	AL[10]	G3B PCB CN131-8 or LANB PCB CN2-8		Address Signal
CN123-9	N.C.	G3B PCB CN131-9 or LANB PCB CN2-9		Not Used
CN123-10	N.C.	G3B PCB CN131-10 or LANB PCB CN2-10		Not Used
CN123-11	nCS08	G3B PCB CN131-11 or LANB PCB CN2-11		Chip Enable Signal H: Disable L: Enable

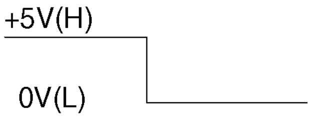
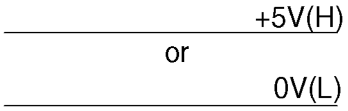
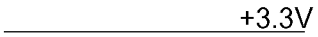
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN123-12	nCS0E	G3B PCB CN131-12 or LANB PCB CN2-12		Chip Enable Signal H: Disable L: Enable
CN123-13	nIOWRH	G3B PCB CN131-13 or LANB PCB CN2-13		I/O Write (High) Signal H: Write Disable L: Write Enable
CN123-14	GND	G3B PCB CN131-14 or LANB PCB CN2-14		Ground
CN123-15	nIRQOP1	G3B PCB CN131-15 or LANB PCB CN2-15		Interrupt Signal
CN123-16	nIRQOP2	G3B PCB CN131-16 or LANB PCB CN2-16		Interrupt Signal
CN123-17	N.C.	G3B PCB CN131-17 or LANB PCB CN2-17		Not Used
CN123-18	pOP1RST	G3B PCB CN131-18 or LANB PCB CN2-18		Reset Signal H: Reset L: Not Reset
CN123-19	IOD[0]	G3B PCB CN131-19 or LANB PCB CN2-19		Data Signal
CN123-20	IOD[1]	G3B PCB CN131-20 or LANB PCB CN2-20		Data Signal
CN123-21	IOD[4]	G3B PCB CN131-21 or LANB PCB CN2-21		Data Signal

SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN123-22	IOD[5]	G3B PCB CN131-22 or LANB PCB CN2-22		Data Signal
CN123-23	IOD[8]	G3B PCB CN131-23 or LANB PCB CN2-23		Data Signal
CN123-24	IOD[9]	G3B PCB CN131-24 or LANB PCB CN2-24		Data Signal
CN123-25	IOD[12]	G3B PCB CN131-25 or LANB PCB CN2-25		Data Signal
CN123-26	IOD[13]	G3B PCB CN131-26 or LANB PCB CN2-26		Data Signal
CN123-27	nWAIT[2]	G3B PCB CN131-27 or LANB PCB CN2-27		BUS Wait Signal
CN123-28	nWAIT[3]	G3B PCB CN131-28 or LANB PCB CN2-28		BUS Wait Signal
CN123-29	nOPB1	G3B PCB CN131-29 or LANB PCB CN2-29		Option Detection Signal H: Option Not Installed L: Option Installed
CN123-30	nOPB2	G3B PCB CN131-30 or LANB PCB CN2-30		Option Detection Signal H: Option Not Installed L: Option Installed
CN123-31	N.C.	G3B PCB CN131-31 or LANB PCB CN2-31		Not Used

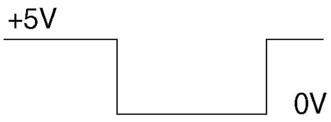
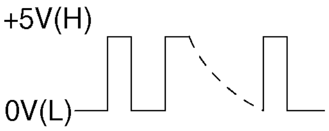
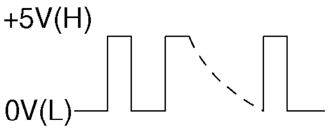
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN123-32	N.C.	G3B PCB CN131-32 or LANB PCB CN2-32		Not Used
CN123-33	+5VP	G3B PCB CN131-33 or LANB PCB CN2-33	+5V	+5 VDC Pilot Power Supply, that provides power to the active components during the Sleep Mode.
CN123-34	+24VF	G3B PCB CN131-34 or LANB PCB CN2-34	+24V	+24 VDC Power Supply
CN123-35	GND	G3B PCB CN131-35 or LANB PCB CN2-35	0V	Ground
CN123-36	GND	G3B PCB CN131-36 or LANB PCB CN2-36	0V	Ground
CN123-37	AL[3]	G3B PCB CN131-37 or LANB PCB CN2-37		Address Signal
CN123-38	AL[4]	G3B PCB CN131-38 or LANB PCB CN2-38		Address Signal
CN123-39	AL[7]	G3B PCB CN131-39 or LANB PCB CN2-39		Address Signal
CN123-40	AL[8]	G3B PCB CN131-40 or LANB PCB CN2-40		Address Signal
CN123-41	AL[11]	G3B PCB CN131-41 or LANB PCB CN2-41		Address Signal

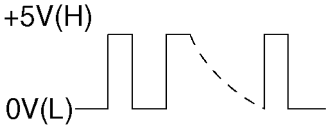
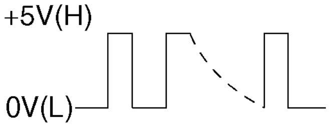
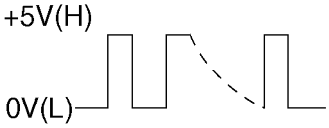
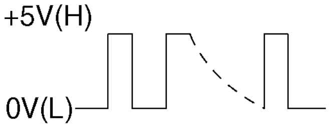
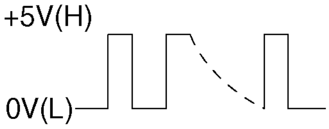
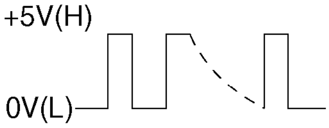
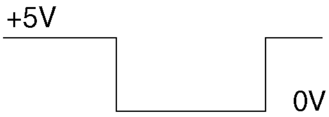
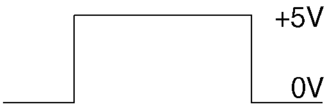
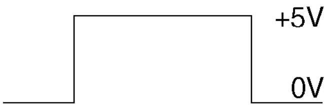
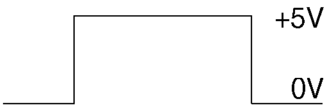
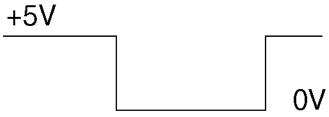
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN123-42	AL[12]	G3B PCB CN131-42 or LANB PCB CN2-42		Address Signal
CN123-43	nCS09	G3B PCB CN131-43 or LANB PCB CN2-43		Chip Enable Signal H: Disable L: Enable
CN123-44	nCS0A	G3B PCB CN131-44 or LANB PCB CN2-44		Chip Enable Signal H: Disable L: Enable
CN123-45	nIORD	G3B PCB CN131-45 or LANB PCB CN2-45		I/O Read Signal H: Read Disable L: Read Enable
CN123-46	nIOWRL	G3B PCB CN131-46 or LANB PCB CN2-46		I/O Write (Low) Signal H: Write Disable L: Write Enable
CN123-47	nWAIT[1]	G3B PCB CN131-47 or LANB PCB CN2-47		BUS Wait Signal
CN123-48	N.C.	G3B PCB CN131-48 or LANB PCB CN2-48		Not Used
CN123-49	nIRQOP3	G3B PCB CN131-49 or LANB PCB CN2-49		Interrupt Signal
CN123-50	N.C.	G3B PCB CN131-50 or LANB PCB CN2-50		Not Used
CN123-51	IOD[2]	G3B PCB CN131-51 or LANB PCB CN2-51		Data Signal

SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN123-52	IOD[3]	G3B PCB CN131-52 or LANB PCB CN2-52		Data Signal
CN123-53	IOD[6]	G3B PCB CN131-53 or LANB PCB CN2-53		Data Signal
CN123-54	IOD[7]	G3B PCB CN131-54 or LANB PCB CN2-54		Data Signal
CN123-55	IOD[10]	G3B PCB CN131-55 or LANB PCB CN2-55		Data Signal
CN123-56	IOD[11]	G3B PCB CN131-56 or LANB PCB CN2-56		Data Signal
CN123-57	IOD[14]	G3B PCB CN131-57 or LANB PCB CN2-57		Data Signal
CN123-58	IOD[15]	G3B PCB CN131-58 or LANB PCB CN2-58		Data Signal
CN123-59	pOP2RST	G3B PCB CN131-59 or LANB PCB CN2-59		Reset Signal H: Reset L: Not Reset
CN123-60	pOP3RST	G3B PCB CN131-60 or LANB PCB CN2-60		Reset Signal H: Reset L: Not Reset
CN123-61	nOPB3	G3B PCB CN131-61 or LANB PCB CN2-61		Option Detection Signal L: Option Not Installed H: Option Installed

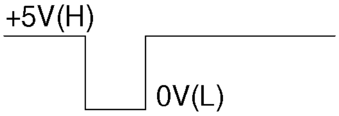
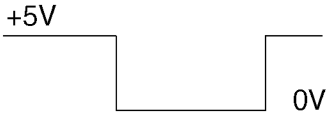
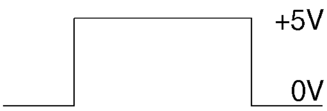
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN123-62	N.C.	G3B PCB CN131-62 or LANB PCB CN2-62		Not Used
CN123-63	nPSDES	G3B PCB CN131-63 or LANB PCB CN2-63		Energy Saver Mode Disable Signal
CN123-64	N.C.	G3B PCB CN131-64 or LANB PCB CN2-64		Not Used
CN123-65	nOPON	G3B PCB CN131-65 or LANB PCB CN2-65		Option Detection Signal H: Option Not Installed L: Option Installed
CN123-66	+3.3V	G3B PCB CN131-66 or LANB PCB CN2-66		+3.3 VDC Power Supply
CN123-67	-12V	G3B PCB CN131-67 or LANB PCB CN2-67		-12 VDC Power Supply
CN123-68	AGND	G3B PCB CN131-68 or LANB PCB CN2-68		Ground

CN220

SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN220-1	nSTB	Centronics I/F		Host Clock / Data Transfer Strobe (Host→Peripheral)
CN220-2	DATA0	Centronics I/F		Data Signal
CN220-3	DATA1	Centronics I/F		Data Signal

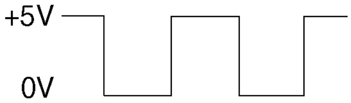
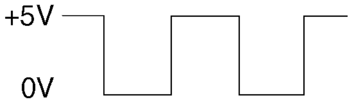
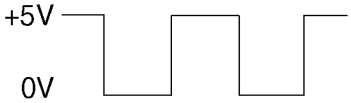
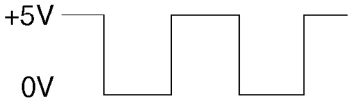
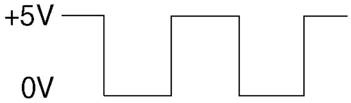
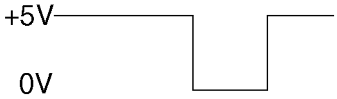
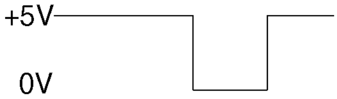
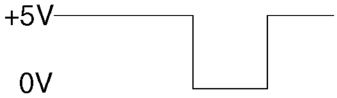
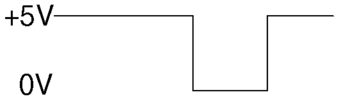
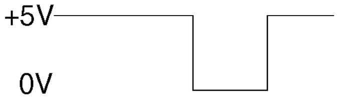
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN220-4	DATA2	Centronics I/F		Data Signal
CN220-5	DATA3	Centronics I/F		Data Signal
CN220-6	DATA4	Centronics I/F		Data Signal
CN220-7	DATA5	Centronics I/F		Data Signal
CN220-8	DATA6	Centronics I/F		Data Signal
CN220-9	DATA7	Centronics I/F		Data Signal
CN220-10	nACK	Centronics I/F		Peripheral Clock / Data Transfer Acknowledge (Peripheral→Host)
CN220-11	BUSY	Centronics I/F		Peripheral Busy (Peripheral→Host)
CN220-12	PE	Centronics I/F		Acknowledge Data Request / Paper Empty Condition (Peripheral→Host)
CN220-13	SELECT	Centronics I/F		Select Signal (Peripheral→Host)
CN220-14	nAUTOFD	Centronics I/F		Host Busy (Host→Peripheral)

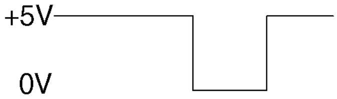
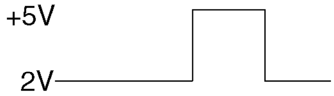
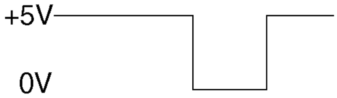
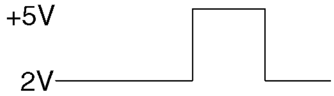
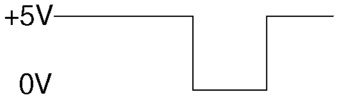
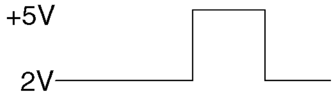
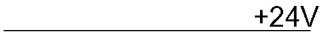
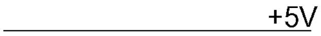
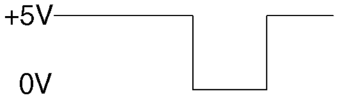
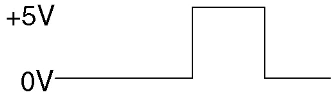
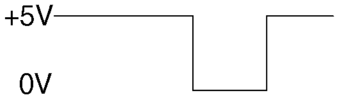
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN220-15	Not Used	Centronics I/F		Not Used
CN220-16	GND	Centronics I/F	0V	Ground
CN220-17	FG	Centronics I/F	0V	Ground
CN220-18	PLH	Centronics I/F	+5V	+5V Pull Up
CN220-19	GND	Centronics I/F	0V	Ground
CN220-20	GND	Centronics I/F	0V	Ground
CN220-21	GND	Centronics I/F	0V	Ground
CN220-22	GND	Centronics I/F	0V	Ground
CN220-23	GND	Centronics I/F	0V	Ground
CN220-24	GND	Centronics I/F	0V	Ground
CN220-25	GND	Centronics I/F	0V	Ground
CN220-26	GND	Centronics I/F	0V	Ground

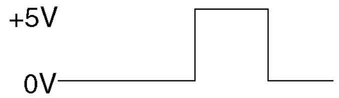
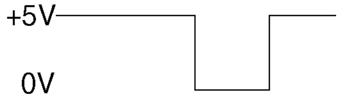
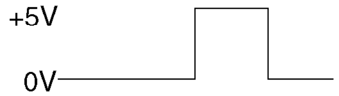
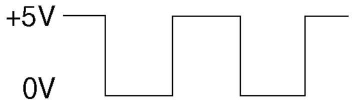
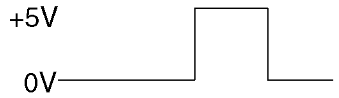
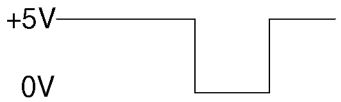
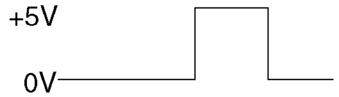
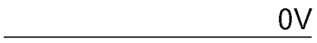
SC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN220-27	GND	Centronics I/F	0V	Ground
CN220-28	GND	Centronics I/F	0V	Ground
CN220-29	GND	Centronics I/F	0V	Ground
CN220-30	GND	Centronics I/F	0V	Ground
CN220-31	nINIT	Centronics I/F		Reverse Request / Initialize (Host→Peripheral)
CN220-32	nFAULT	Centronics I/F		Data Available / Error Condition (Peripheral→Host)
CN220-33	Not Used	Centronics I/F		Not Used
CN220-34	Not Used	Centronics I/F		Not Used
CN220-35	Not Used	Centronics I/F		Not Used
CN220-36	nSELIN	Centronics I/F		IEEE1284 Active (Host→Peripheral)

3.7. PNL6-1 PC Board

CN1

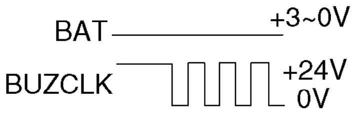
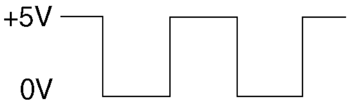
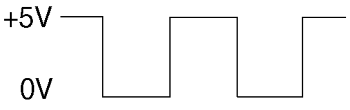
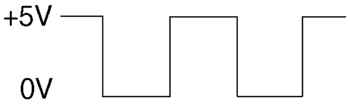
PNL6-1 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN1-1	SCN[2]	PNL2 PCB CN20-1		Key Scan Signal
CN1-2	SCN[1]	PNL2 PCB CN20-2		Key Scan Signal
CN1-3	SCN[3]	PNL2 PCB CN20-3		Key Scan Signal
CN1-4	SCN[0]	PNL2 PCB CN20-4		Key Scan Signal
CN1-5	SCN[4}	PNL2 PCB CN20-5		Key Scan Signal
CN1-6	KIN[7]	PNL2 PCB CN20-6		Key Scan Signal
CN1-7	KIN[6]	PNL2 PCB CN20-7		Key Scan Signal
CN1-8	nLEDCT[2]	PNL2 PCB CN20-8		LED Control
CN1-9	KIN[5]	PNL2 PCB CN20-9		Key Scan Signal
CN1-10	nLEDCT[1]	PNL2 PCB CN20-10		LED Control

PNL6-1 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN1-11	KIN[4]	PNL2 PCB CN20-11		Key Scan Signal
CN1-12	pLED[1]	PNL2 PCB CN20-12		LED Data H: ON
CN1-13	KIN[3]	PNL2 PCB CN20-13		Key Scan Signal
CN1-14	pLED[0]	PNL2 PCB CN20-14		LED Data H: ON
CN1-15	KIN[1]	PNL2 PCB CN20-15		Key Scan Signal
CN1-16	pLED[2]	PNL2 PCB CN20-16		LED Data H: ON
CN1-17	+24V	PNL2 PCB CN20-17		+24 VDC Power Supply
CN1-18	+5VP	PNL2 PCB CN20-18		+5 VDC Power Supply
CN1-19	nLEDCT[0]	PNL2 PCB CN20-19		LED Control
CN1-20	SWCT0	PNL2 PCB CN20-20		One Touch Choice H: ON
CN1-21	KIN[0]	PNL2 PCB CN20-21		Key Scan Signal

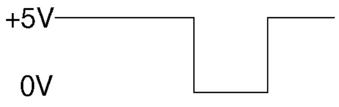
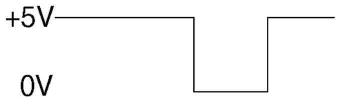
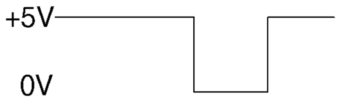
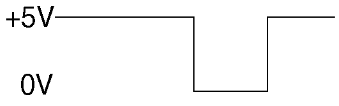
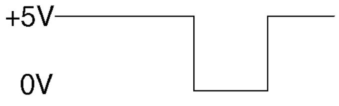
PNL6-1 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN1-22	SWCT1	PNL2 PCB CN20-22		One Touch Choice H: ON
CN1-23	KIN[2]	PNL2 PCB CN20-23		Key Scan Signal
CN1-24	BLCNT2	PNL2 PCB CN20-24		LED Control H: ON
CN1-25	SCN[5]	PNL2 PCB CN20-25		Key Scan Signal
CN1-26	TLCNT	PNL2 PCB CN20-26		Energy Saver LED H: ON
CN1-27	+5V	PNL2 PCB CN20-27		+5 VDC Power Supply
CN1-28	nPWSW	PNL2 PCB CN20-28		Energy Saver LED L: ON
CN1-29	BLCNT1	PNL2 PCB CN20-29		LED Control H: ON
CN1-30	GND	PNL2 PCB CN20-30		Ground

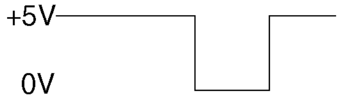
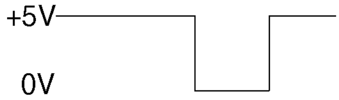
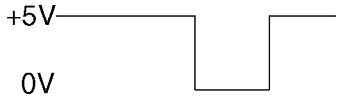
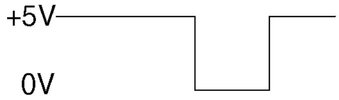
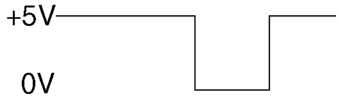
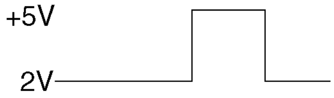
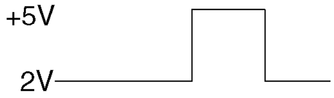
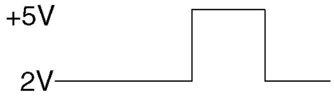
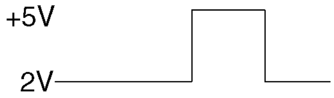
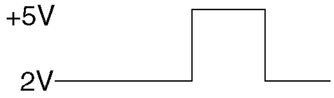
CN201
Refer to SC PC Board CN108.

CN202

PNL6-1 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN202-1	BAT/BUZCLK	PNL6-2 PCB CN210-1		Battery Voltage Buzzer Clock
CN202-2	GND	PNL6-2 PCB CN210-2		Ground
CN202-3	SCN[6]	PNL6-2 PCB CN210-3		Key Scan Signal
CN202-4	SCN[7]	PNL6-2 PCB CN210-4		Key Scan Signal
CN202-5	SCN[8]	PNL6-2 PCB CN210-5		Key Scan Signal

CN203

PNL6-1 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN203-1	KIN[4]	PNL6-2 PCB CN211-1		Key Scan Signal
CN203-2	KIN[4]	PNL6-2 PCB CN211-2		Key Scan Signal
CN203-3	KIN[5]	PNL6-2 PCB CN211-3		Key Scan Signal
CN203-4	KIN[6]	PNL6-2 PCB CN211-4		Key Scan Signal
CN203-5	KIN[7]	PNL6-2 PCB CN211-5		Key Scan Signal

PNL6-1 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN203-6	nLEDCT[0]	PNL6-2 PCB CN211-6		LED Control
CN203-7	nLEDCT[1]	PNL6-2 PCB CN211-7		LED Control
CN203-8	nLEDCT[2]	PNL6-2 PCB CN211-8		LED Control
CN203-9	nLEDCT[3]	PNL6-2 PCB CN211-9		LED Control
CN203-10	nLEDCT[4]	PNL6-2 PCB CN211-10		LED Control
CN203-11	pLED[4]	PNL6-2 PCB CN211-11		LED Data H: ON
CN203-12	pLED[5]	PNL6-2 PCB CN211-12		LED Data H: ON
CN203-13	pLED[6]	PNL6-2 PCB CN211-13		LED Data H: ON
CN203-14	pLED[7]	PNL6-2 PCB CN211-14		LED Data H: ON
CN203-15	pLED[7]	PNL6-2 PCB CN211-15		LED Data H: ON

3.8. PNL6-2 PC Board

CN210

Refer to PNL6-1 PC Board CN202.

CN211

Refer to PNL6-1 PC Board CN203.

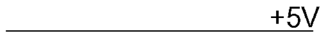
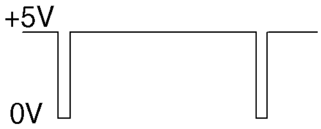
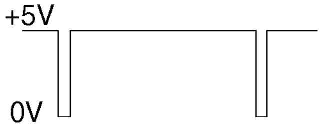
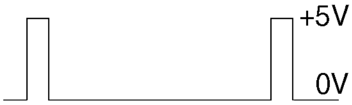
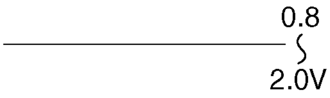
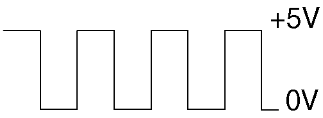
3.9. PNL2 PC Board

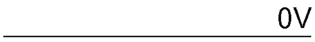
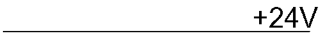
CN20

Refer to PNL6-1 PC Board CN1.

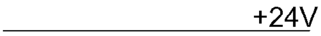
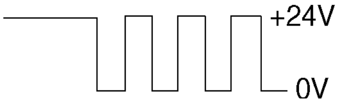
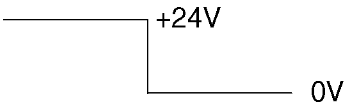
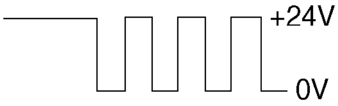
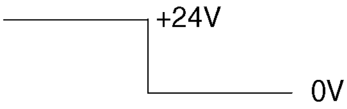
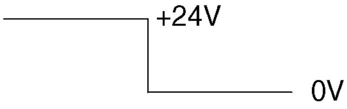
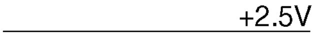
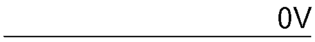
3.10. LPC3 PC Board

CN701

LPC3 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN701-1	L+5V	LSU CN811-1		Laser Circuit +5 VDC Power Supply
CN701-2-4	N.C.			Not Used
CN701-5	nS/H	LSU CN811-3		Sample Hold Signal
CN701-6	nHSYNC	LSU CN811-4		Horizontal Synchronous Signal
CN701-7	MGND	LSU CN811-5		Ground
CN701-8	nLDON	LSU CN811-6		Laser Control
CN701-9	pLDCTL	LSU CN811-7		Laser Control
CN701-10	MGND	LSU CN811-8		Ground
CN701-11	LASERPOW	LSU CN811-9		Laser Power Control
CN701-12	PMCK	LSU CN3-1		Polygon Motor Clock
CN701-13	nPMRDY	LSU CN3-2		Polygon Motor Ready Signal

LPC3 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN701-14	nPMON	LSU CN3-3		Polygon Motor Rotation Signal
CN701-15	MGND	LSU CN3-4		Ground
CN701-16	+24V	LSU CN3-5		+24 VDC Power Supply

CN702

LPC3 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN702-1	+24VM	HVPS CN800-1		+24 VDC Power Supply
CN702-2	CR0	HVPS CN800-2		Charge Control DC Output
CN702-3	CR1	HVPS CN800-3		Charge Control DC Output
CN702-4	DR0	HVPS CN800-4		Development Control AC+DC Output
CN702-5	TR0	HVPS CN800-5		Transfer Control Cleaning Output
CN702-6	TR1	HVPS CN800-6		Transfer Control Transfer Output
CN702-7	TRCP	HVPS CN800-7		+2.5 VDC Power Supply
CN702-8	MGND	HVPS CN800-8		Ground

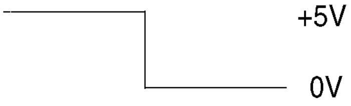
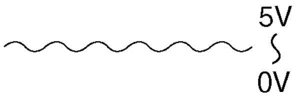
CN703

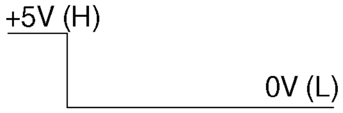
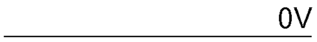
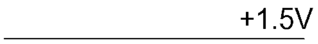
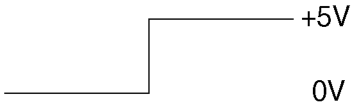
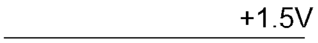
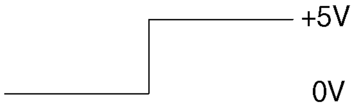
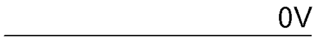
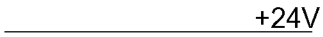
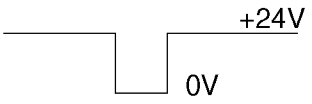
LPC3 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN703-1	+24V	ILS PC Board (Interlock Switch)	+24V	+24 VDC Power Supply
CN703-2	N.C.			Not Used
CN703-3	+24VD1	ILS PC Board (Interlock Switch)	+24V	+24 VDC Power Supply

CN704

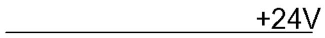
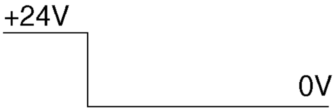
Refer to SC PC Board CN100.

CN705

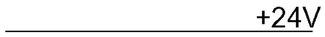
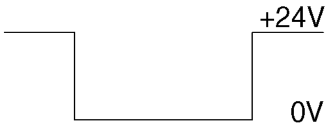
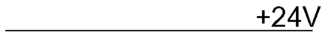
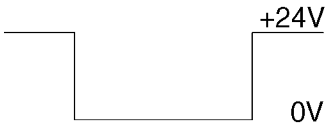
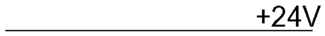
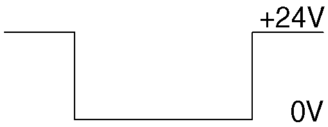
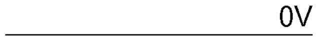
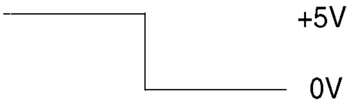
LPC3 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN705-1	N.C.			Not Used
CN705-2	nMFPCK	Sheet Bypass Sensor 2-1		Sheet Bypass Paper Detection Signal L: Detect
CN705-3	GND	Sheet Bypass Sensor 2-2	0V	Ground
CN705-4	LDMFP	Sheet Bypass Sensor 2-3	+1.5V	Photo Sensor DC Drive Voltage
CN705-5	GND	Toner Sensor	0V	Ground
CN705-6	TONERSEN	Toner Sensor		Toner Sensor Signal
CN705-7	+5V	Toner Sensor	+5V	+5 VDC Power Supply

LPC3 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN705-8	nRSEN	Registration Sensor		Registration Sensor Signal
CN705-9	GND	Registration Sensor		Ground
CN705-10	LDRSEN	Registration Sensor		Photo Sensor DC Drive Voltage
CN705-11	nPCHK1	Paper Sensor		1st Paper Tray Paper Detection Signal L: Detect
CN705-12	GND	Paper Sensor		Ground
CN705-13	LDPS	Paper Sensor		Photo Sensor DC Drive Voltage
CN705-14	nUPLIMIT1	Upper Limit Sensor		Paper Level Signal (1st Feeder) L: Detect
CN705-15	GND	Upper Limit Sensor		Ground
CN705-16	LDUPL	Upper Limit Sensor		Photo Sensor DC Drive Voltage
CN705-17	+24VM	COUNTER		+24 VDC Power Supply
CN705-18	nCOUNT	COUNTER		Counter Drive Signal

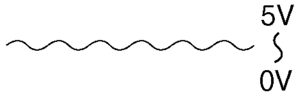
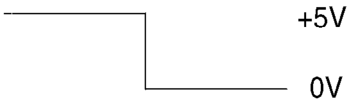
CN706

LPC3 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN706-1	+24VM	Lift Motor		+24 VDC Power Supply
CN706-2	nLIFT1	Lift Motor		Lift DC Motor Ready Signal

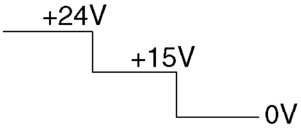
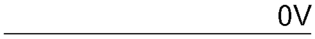
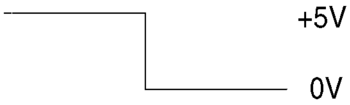
CN707

LPC3 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN707-1	+24VM	Registration Roller Clutch-1		+24 VDC Power Supply
CN707-2	nRRCLH	Registration Roller Clutch-4		Registration Roller Drive Signal
CN707-3	+24VM	Feed Roller Clutch-1		+24 VDC Power Supply
CN707-4	nADF1	Feed Roller Clutch-4		Feed Roller Drive Signal
CN707-5	+24VM	Sheet Bypass Feed Roller Clutch-1		+24 VDC Power Supply
CN707-6	nHDF	Sheet Bypass Feed Roller Clutch-4		Sheet Bypass Feed Roller Drive Signal
CN707-7	GND	Paper Tray-1		Ground
CN707-8	nCASETT	Paper Tray-2		Paper Tray Detection Signal L: Detect

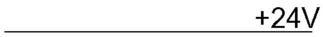
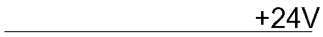
CN708

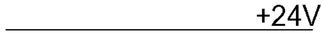
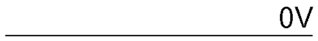
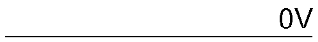
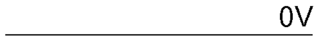
LPC3 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN708-1	THERM1	Thermistor-1		Thermistor Output Signal
CN708-2	THERM2	Thermistor-2		Ground
CN708-3	nESEN	Paper Exit Sensor-1		Inner Under Tray Paper Exit Signal
CN708-4	GND	Paper Exit Sensor-2		Ground
CN708-5	LDESEN	Paper Exit Sensor-3		Photo Sensor DC Drive Voltage

CN709

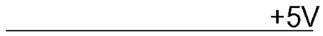
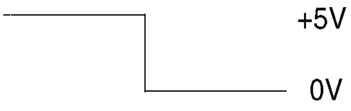
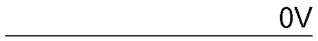
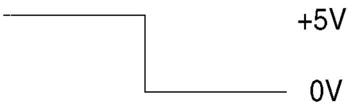
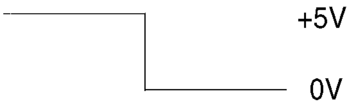
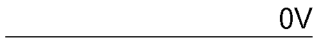
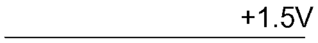
LPC3 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN709-1	+24V	Fan-1		Fan Control Signal 24V/15V
CN709-2	MGND	Fan-2		Ground
CN709-3	nFNRDT	Fan-3		Fan Ready Signal H: Not Ready L: Ready

CN710

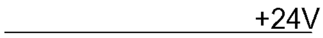
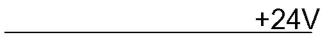
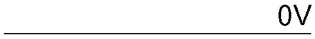
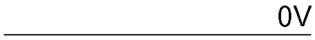
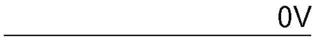
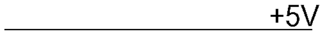
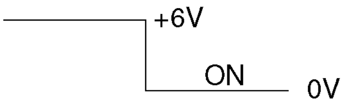
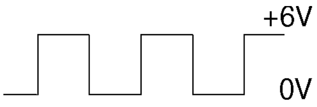
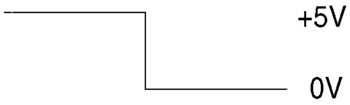
LPC3 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN710-1	+24V	LVPS CN62-1		+24 VDC Power Supply
CN710-2	+24V	LVPS CN62-2		+24 VDC Power Supply

LPC3 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN710-3	+24V	LVPS CN62-3		+24 VDC Power Supply
CN710-4	MGND	LVPS CN62-4		Ground
CN710-5	MGND	LVPS CN62-5		Ground
CN710-6	MGND	LVPS CN62-6		Ground

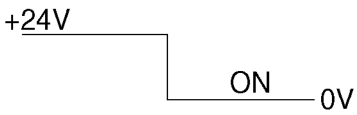
CN711

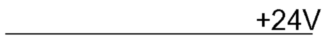
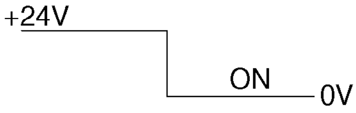
LPC3 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN711-1	+5V	SNS PCB-1		+5 VDC Power Supply
CN711-2	nA3SEN	SNS PCB-2		Sheet Bypass Paper Size Detection Signal
CN711-3	GND	SNS PCB-3		Ground
CN711-4	nB4SENS	SNS PCB-4		Sheet Bypass Paper Detection Signal
CN711-5	nMFSEN4	Sheet Bypass Paper Length Sensor-1		Sheet Bypass Paper Length Detection Signal
CN711-6	GND	Sheet Bypass Paper Length Sensor-2		Ground
CN711-7	LDMF4	Sheet Bypass Paper Length Sensor-3		Photo Sensor DC Drive Voltage

CN712

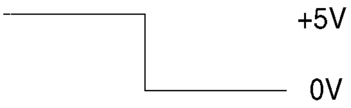
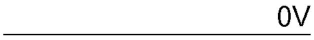
LPC3 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN712-1	+24VM	DC Motor-1		+24 VDC Power Supply
CN712-2	+24VM	DC Motor-2		+24 VDC Power Supply
CN712-3	MGND	DC Motor-3		Ground
CN712-4	MGND	DC Motor-4		Ground
CN712-5	GND	DC Motor-5		Ground
CN712-6	+5V	DC Motor-6		+5 VDC Power Supply
CN712-7	nMMON	DC Motor-7		DC Motor Rotation Control Signal
CN712-8	nMMCK	DC Motor-8		DC Motor Clock
CN712-9	F/R	DC Motor-9		Not Used
CN712-10	nMMRDY	DC Motor-10		Lift DC Motor Ready Signal

CN713 (DP-2010E only)

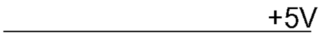
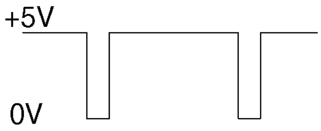
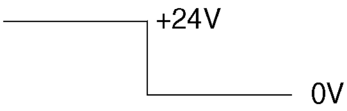
LPC3 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN713-1	nDUPKEP2	Keep Solenoid		Duplex Keep Solenoid Drive Signal

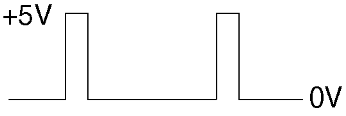
LPC3 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN713-2	+24VM	Keep Solenoid		+24 VDC Power Supply
CN713-3	nDUPSEN1	Keep Solenoid		Duplex Sensor1 Signal

CN714 (DP-2010E only)

LPC3 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN714-1	nDUPSEN1	Duplex Sensor1-1		Duplex Unit Paper Detection Signal L: Detect
CN714-2	GND	Duplex Sensor1-2		Ground
CN714-3	LDDUP2	Duplex Sensor1-3		Photo Sensor DC Drive Voltage
CN714-4	nOPDUP	LPC3 PCB CN714-5		Duplex Unit Detection H: Not Installed L: Installed
CN714-5	GND	LPC3 PCB CN714-4		Ground

CN715

LPC3 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN715-1	+5V	HTC PCB CN765-1		+5 VDC Power Supply
CN715-2	nSSR	HTC PCB CN765-2		Heater Control Signal
CN715-3	nACSW	HTC PCB CN765-3		Relay Control Signal

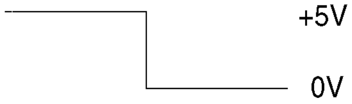
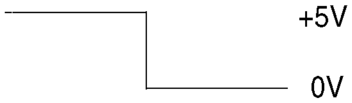
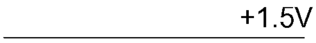
LPC3 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN715-4	+24VF4	HTC PCB CN765-4	+24V	+24 VDC Power Supply
CN715-5	GND	HTC PCB CN765-5	0V	Ground
CN715-6	pZCIN	HTC PCB CN765-6		Heater Control Signal
CN715-7	N.C.			Not Used

CN716

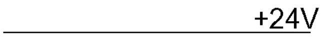
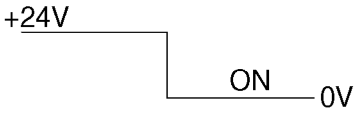
LPC3 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN716-1	+5V	LVPS CN62-7	+5V	+5 VDC Power Supply
CN716-2	+5V	LVPS CN62-8	+5V	+5 VDC Power Supply
CN716-3	GND	LVPS CN62-9	0V	Ground
CN716-4	GND	LVPS CN62-10	0V	Ground

CN722

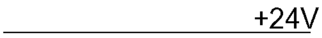
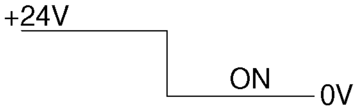
LPC3 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN722-1	GND	Toner Waste Sensor CN740-1	0V	Ground
CN722-2	nOPRT	Toner Waste Sensor CN740-2	0V	Toner Waste Sensor PCB Detection

LPC3 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN722-3	nBPSEN	Toner Waste Sensor CN740-3		Toner Waste Container Sensor H: Container Installed L: Container Not Installed
CN722-4	nTFSEN	Toner Waste Sensor CN740-4		Toner Waste Sensor H: Full L: Not Full
CN722-5	BPLED	Toner Waste Sensor CN740-5		Photo Sensor DC Drive Voltage
CN722-6	TFLED	Toner Waste Sensor CN740-6		Photo Sensor DC Drive Voltage

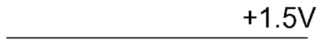
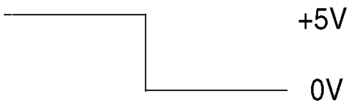
CN723

LPC3 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN723-1	+24VM	Toner Motor		+24 VDC Power Supply
CN723-2	nTM	Toner Motor		Toner Bottle Motor Sensor

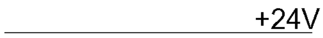
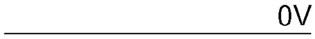
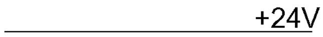
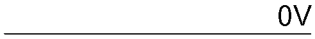
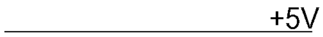
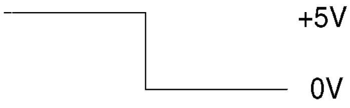
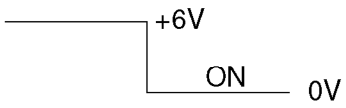
CN724

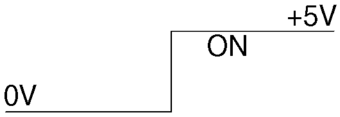
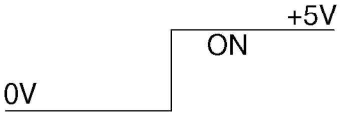
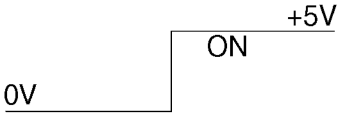
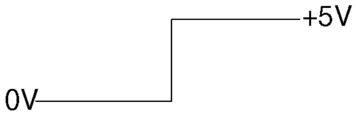
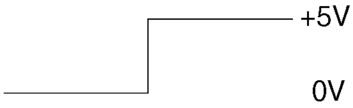
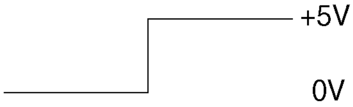
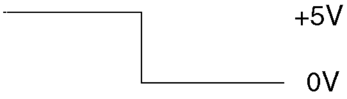
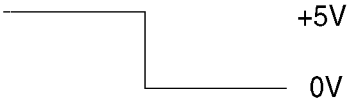
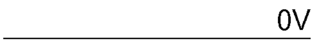
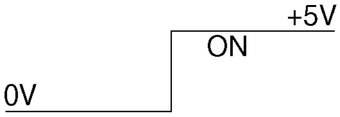
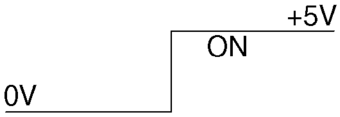
LPC3 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN724-1	+24VM	LSU Fan-1		+24 VDC Power Supply
CN724-2	nLSFN	LSU Fan-3		LSU Fan Drive

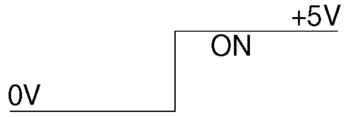
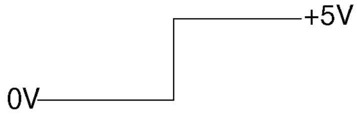
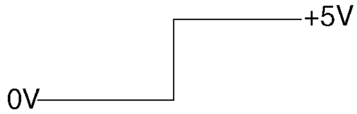
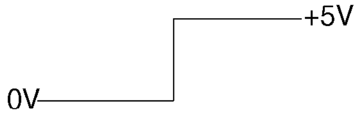
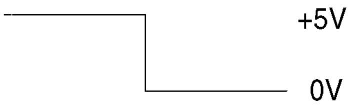
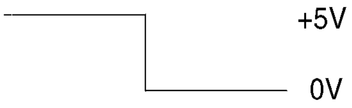
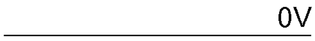
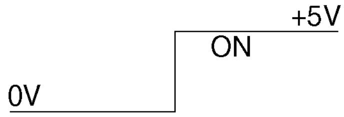
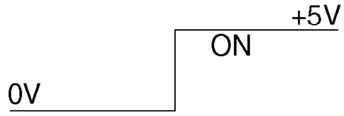
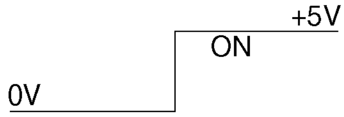
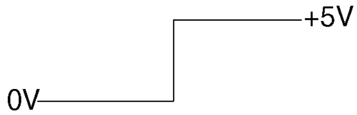
CN726

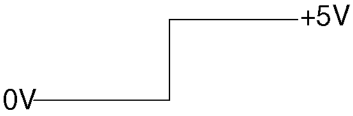
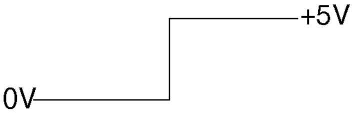
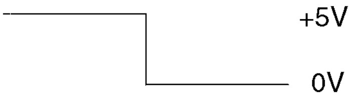
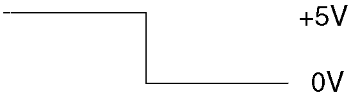
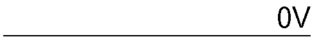
LPC3 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN726-1	pBTHP	Toner Bottle HP Sensor-1		Photo Sensor DC Drive Voltage
CN726-2	GND	Toner Bottle HP Sensor-2		Ground
CN726-3	LDBTHP	Toner Bottle HP Sensor-3		Toner Bottle HP Sensor Signal L: Home Position

CN731

LPC3 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN731-1	+24VM	CST4 PCB CN776-1		+24 VDC Power Supply
CN731-2	MGND	CST4 PCB CN776-2		Ground
CN731-3	+24VM	CST4 PCB CN776-3		+24 VDC Power Supply
CN731-4	MGND	CST4 PCB CN776-4		Ground
CN731-7	+5V	CST4 PCB CN776-7		+5 VDC Power Supply
CN731-8	GND	CST4 PCB CN776-8		Ground
CN731-9	n3MRDY	CST4 PCB CN776-9		DC Motor Ready Signal
CN731-10	n3MONA	CST4 PCB CN776-10		DC Motor Rotation Control Signal

LPC3 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN731-11	pADF2A	CST4 PCB CN776-11		2nd Feed Roller Drive Signal
CN731-12	pMRCLH2A	CST4 PCB CN776-12		2nd Medium Roller Drive Signal
CN731-13	pLIFT2	CST4 PCB CN776-13		2nd Lift DC Motor Drive Signal
CN731-14	nPCHK2	CST4 PCB CN776-14		2nd Paper Tray Paper Detection Signal L: Detect
CN731-15	nCASET2	CST4 PCB CN776-15		2nd Paper Tray Detection Signal
CN731-16	pUPLIMIT2	CST4 PCB CN776-16		2nd Lift DC Motor Ready Signal
CN731-17	nFDPCHK2	CST4 PCB CN776-17		2nd Paper Tray Paper Registration Detection Signal L: Detect
CN731-18	nJAMDOR2	CST4 PCB CN776-18		2nd Paper Tray Jam Access Cover Open Detection Signal L: Detect
CN731-19	nCSTOP2	CST4 PCB CN776-19		2nd Paper Feed Module Detection Signal
CN731-20	pADF3A	CST4 PCB CN776-20		3rd Feed Roller Drive Signal
CN731-21	pMRCLH3A	CST4 PCB CN776-21		3rd Medium Roller Drive Signal

LPC3 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN731-22	pLIFT3	CST4 PCB CN776-22		3rd Lift DC Motor Drive Signal
CN731-23	nPCHK3	CST4 PCB CN776-23		3rd Paper Tray Paper Detection Signal L: Detect
CN731-24	nCASET3	CST4 PCB CN776-24		3rd Paper Tray Detection Signal
CN731-25	pUPLIMIT3	CST4 PCB CN776-25		3rd Lift DC Motor Ready Signal
CN731-26	nFDPCHK3	CST4 PCB CN776-26		3rd Paper Tray Paper Registration Detection Signal L: Detect
CN731-27	nJAMDOR3	CST4 PCB CN776-27		3rd Paper Tray Jam Access Cover Open Detection Signal L: Detect
CN731-28	nCSTOP3	CST4 PCB CN776-28		3rd Paper Feed Module Detection Signal
CN731-29	pADF4A	CST4 PCB CN776-29		4th Feed Roller Drive Signal
CN731-30	pMRCLH4A	CST4 PCB CN776-30		4th Medium Roller Drive Signal
CN731-31	pLIFT4	CST4 PCB CN776-31		4th Lift DC Motor Drive Signal
CN731-32	nPCHK4	CST4 PCB CN776-32		4th Paper Tray Paper Detection Signal L: Detect

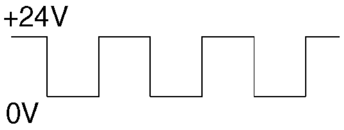
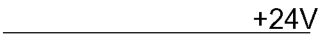
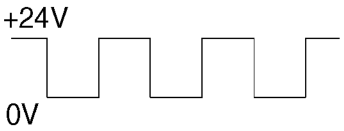
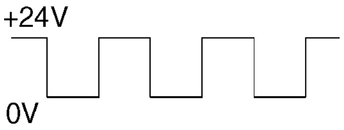
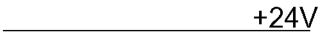
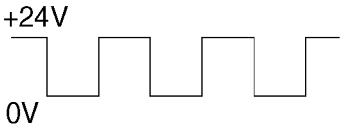
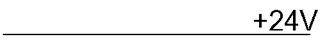
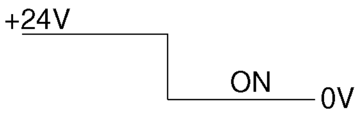
LPC3 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN731-33	nCASET4	CST4 PCB CN776-33		4th Paper Tray Detection Signal
CN731-34	pUPLIMIT4	CST4 PCB CN776-34		4th Lift DC Motor Ready Signal
CN731-35	nFDPCHK4	CST4 PCB CN776-35		4th Paper Tray Paper Registration Detection Signal L: Detect
CN731-36	nJAMDOR4	CST4 PCB CN776-36		4th Paper Tray Jam Access Cover Open Detection Signal L: Detect
CN731-37	nCSTOP4	CST4 PCB CN776-37		4th Paper Feed Module Detection Signal
CN731-38	N.C.			Not Used
CN731-39	N.C.			Not Used
CN731-40	N.C.			Not Used

3.11. ADF PC Board

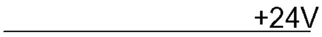
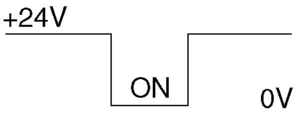
CN21

Refer to SC PC Board CN3.

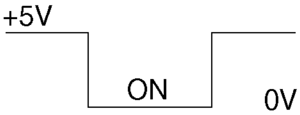
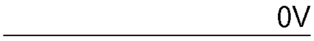
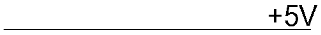
CN22

ADF PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN22-1	OUTA	ADF Motor-1		Motor Control Signal
CN22-2	+24V	ADF Motor-2		+24 VDC Power Supply
CN22-3	nOUTA	ADF Motor-3		Motor Control Signal
CN22-4	OUTB	ADF Motor-4		Motor Control Signal
CN22-5	+24V	ADF Motor-5		+24 VDC Power Supply
CN22-6	nOUTB	ADF Motor-6		Motor Control Signal
CN22-7	N.C.			Not Used
CN22-8	N.C.			Not Used
CN22-9	+24VOPF	Feed 2 Roller Clutch-1		+24 VDC Power Supply
CN22-10	nCCLH1	Feed 2 Roller Clutch-2		Feed 2 Roller Clutch Control Signal

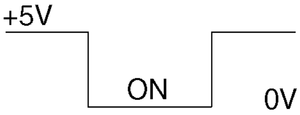
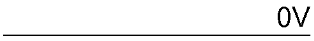
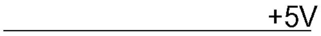
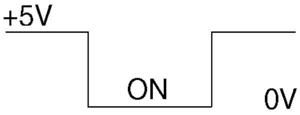
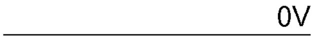
CN25

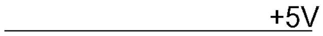
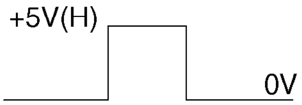
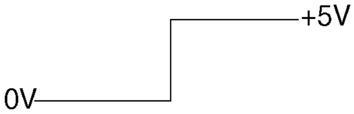
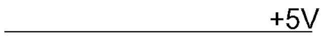
ADF PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN25-1	+24VOPF	Stamp Solenoid		+24 VDC Power Supply
CN25-2	nASTAMP	Stamp Solenoid		Stamp Control Signal

CN27

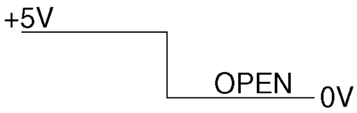
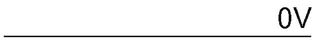
ADF PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN27-1	nAAPNT	Original Detection Sensor		Original Detection Signal L: Detect
CN27-2	GND	Original Detection Sensor		Ground
CN27-3	+5VP	Original Detection Sensor		+5 VDC Power Supply

CN28

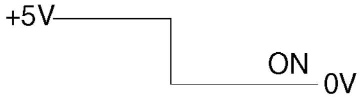
ADF PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN28-1	nAADL1	Original Length Sensor1		Original Length Detection Signal L: Detect
CN28-2	GND	Original Length Sensor1		Ground
CN28-3	+5V	Original Length Sensor1		+5 VDC Power Supply
CN28-4	nAADL2	Original Length Sensor2		Original Length Detection Signal L: Detect
CN28-5	GND	Original Length Sensor2		Ground

ADF PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN28-6	+5V	Original Length Sensor2		+5 VDC Power Supply
CN28-7	nAB4S	SNS PCB CN41-1		Original Width Detection Signal L: Detect
CN28-8	nAA3S	SNS PCB CN41-2		Original Width Detection Signal L: Detect
CN28-9	GND	SNS PCB CN41-4		Ground
CN28-10	+5V	SNS PCB CN41-3		+5 VDC Power Supply

CN29

ADF PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN29-1	N.C.			Not Used
CN29-2	N.C.			Not Used
CN29-3	N.C.			Not Used
CN29-4	pAB1SN	ADF Cover Open Detection Sensor		ADF Cover Open Detection Signal L: Detect
CN29-5	GND	ADF Cover Open Detection Sensor		Ground
CN29-6	N.C.			Not Used

CN30

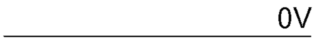
ADF PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN30-1	N.C.			Not Used
CN30-2	N.C.			Not Used
CN30-3	N.C.			Not Used
CN30-4	nAB2SN	Duplex Eject Sensor		Duplex Eject Detection Signal L: Detect
CN30-5	GND	Duplex Eject Sensor	0V	Ground
CN30-6	+5V	Duplex Eject Sensor	+5V	+5 VDC Power Supply
CN30-7	N.C.			Not Used
CN30-8	N.C.			Not Used
CN30-9	N.C.			Not Used

3.12. CCD PC Board

CN51

Refer to SC PC Board CN106 and CN120.

CN52

CCD PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN52-1	FGND	FG		Ground

3.13. LSU PC Board

CN810

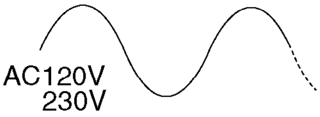
Refer to SC PC Board CN110.

CN811, CN3

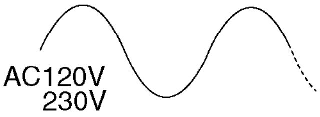
Refer to LPC3 PC Board CN701.

3.14. HTC PC Board

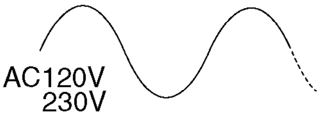
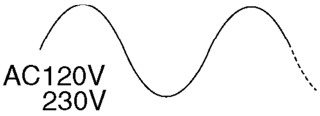
CN760

HTC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN760	AC(L)	INLET-1		AC Power Supply

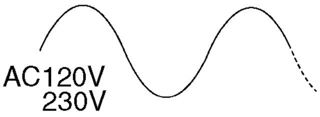
CN761

HTC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN761	AC(N)	INLET-3		AC Power Supply

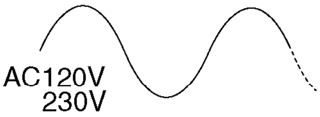
CN762

HTC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN762-1	AC(L)	LVPS CN60-1		AC Power Supply
CN762-3	AC(N)	LVPS CN60-3		AC Power Supply

CN764

HTC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN764	AC(L)	Thermostat Thermal Fuse		AC Power Supply

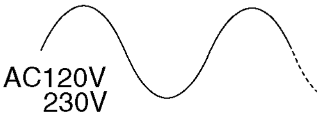
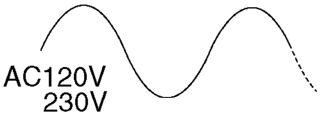
CN765

HTC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN765	AC(N)	Fuser Lamp		AC Power Supply

CN766

Refer to LPC3 PC Board CN715.

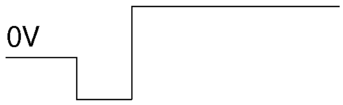
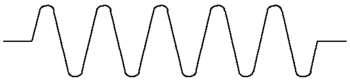
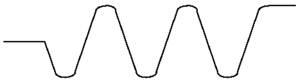
CN767

HTC PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN767-1	AC(N)	CN48W03	 AC120V 230V	AC Power Supply
CN767-2	AC(N)	CN48W03	 AC120V 230V	AC Power Supply

3.15. HVPS

CN800

Refer to LPC3 PC Board CN702.

HVPS Pin No.	Signal Name	Destination	Signal Waveform	Function
HVPS T1	FER	Transfer Roller		Transfer Signal (High Voltage)
HVPS C	CHARGE	Charge Roller		Charge Signal (High Voltage)
HVPS D	DEVELOPMENT	Development Roller		Development Signal (High Voltage)

3.16. LVPS

CN60

Refer to HTC PC Board CN762.

CN61

Refer to SC PC Board CN101.

CN62

Refer to LPC3 PC Board CN710 and CN716.

3.17. ILS PC Board

CN750

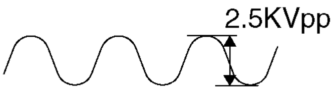
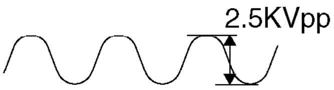
Refer to LPC3 PC Board CN703.

3.18. INV PC Board

CN1

Refer to SC PC Board CN9.

CN2

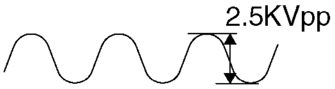
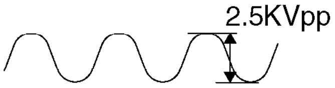
INV PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN2-1	HVAC1	LFB PCB CN181-1		
CN2-2	HVAC2	LFB PCB CN181-2		

3.19. LFB PC Board

CN181

Refer to INV PC Board CN2.

CN182

LFB PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN182-1	HVAC1	LFB PCB CN182-1		
CN182-2	HVAC2	LFB PCB CN182-2		

3.20. SNS PC Board

CN41

Refer to ADF PC Board CN28.

3.21. MJR PC Board

CN20

MJR PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN20-1	T1	Telephone Line		Line Signal
CN20-2	N.C.			Not Used
CN20-3	L2	Telephone Line		Line Signal
CN20-4	L1	Telephone Line		Line Signal
CN20-5	N.C.			Not Used
CN20-6	T2	Telephone Line		Line Signal

CN22

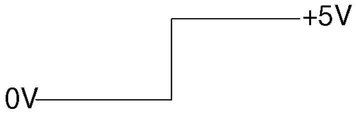
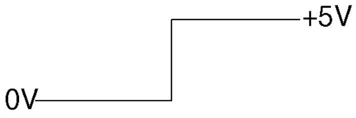
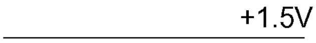
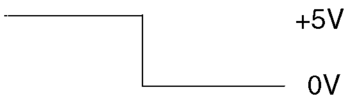
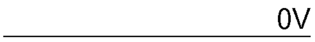
Refer to SC PC Board CN114.

CN25

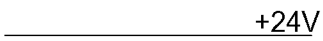
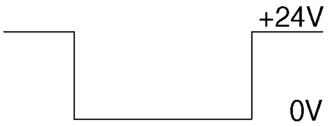
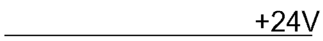
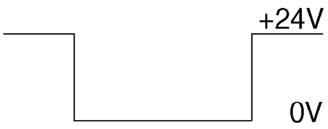
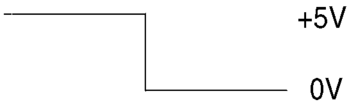
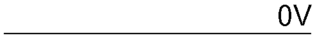
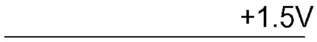
Refer to SC PC Board CN111.

3.22. CST4 PC Board

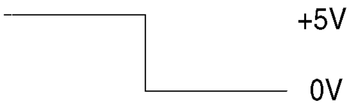
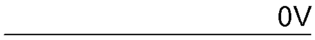
CN771

CST4 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN771-1	nPCHK2	Paper Detect Sensor-1		2nd Paper Tray Paper Detection Signal L: Detect
CN771-2	GND	Paper Detect Sensor-2		Ground
CN771-3	LDSP2	Paper Detect Sensor-3		Photo Sensor DC Drive Voltage
CN771-4	nUPLMT2	Upper Limit Sensor-1		2nd Paper Tray Paper Level Signal L: Detect
CN771-5	GND	Upper Limit Sensor-2		Ground
CN771-6	LDUPL2	Upper Limit Sensor-3		Photo Sensor DC Drive Voltage
CN771-7	nFDPCHK2	Paper Feed Sensor-1		2nd Paper Tray Paper Registration Detection Signal L: Detect
CN771-8	GND	Paper Feed Sensor-2		Ground
CN771-9	LDFPCHK2	Ppaper Feed Sensor-3		Photo Sensor DC Drive Voltage
CN771-10	N.C.			Not Used

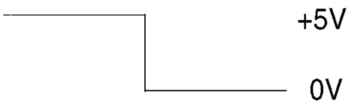
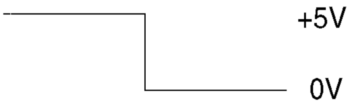
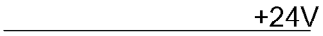
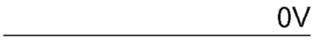
CN772

CST4 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN772-1	+24VM	Feed Clutch-1		+24 VDC Power Supply
CN772-2	nADF2	Feed Clutch-4		2nd Paper Tray Feed Roller Drive Signal
CN772-3	+24VM	Medium Roller Clutch-1		+24 VDC Power Supply
CN772-4	nMRCLH2	Medium Roller Clutch-4		2nd Paper Tray Intermediate Roller Clutch Drive Signal
CN772-5	nJAMDOR2	Jam Door Sensor-1		2nd Paper Tray Jam Access Cover Open Detection Signal L: Detect
CN772-6	GND	Jam Door Sensor-2		Ground
CN772-7	LDJAM2	Jam Door Sensor-3		Photo Sensor DC Drive Voltage

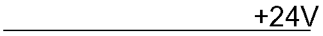
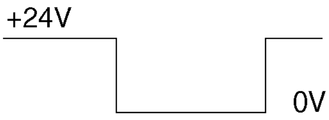
CN773

CST4 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN773-1	nCST2	Paper Tray Sensor-1		2nd Paper Tray Detection Signal L: Detect
CN773-2	GND	Paper Tray Sensor-2		Ground
CN773-3	LDCST2	Paper Tray Sensor-3		Photo Sensor DC Drive Voltage

CN774

CST4 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN774-1	n3MRDY	DC Motor		DC Motor Ready Signal
CN774-2	n3MON	DC Motor		DC Motor Ready Signal
CN774-3	+24VM	DC Motor		+24 VDC Power Supply
CN774-4	MGND	DC Motor		Ground
CN774-5	H/L	DC Motor		Not Used

CN775

CST4 PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN775-1	+24VM	Lift Motor		+24 VDC Power Supply
CN775-2	nLIFTM2	Lift Motor		2nd Paper Tray Lift Motor Drive Signal

CN776

Refer to LPC3 PC Board CN731.

CN777

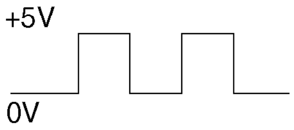
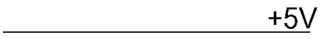
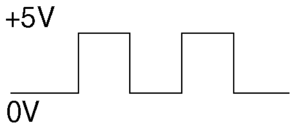
Refer to LPC3 PC Board CN731.

3.23. LANB PC Board

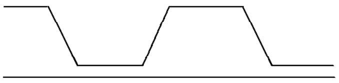
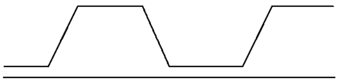
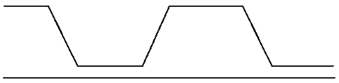
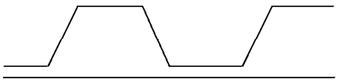
CN2

Refer to SC PC Board CN123.

CN5

LANB PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN5-1	LINK	LANC PCB CN200-1		LANB PCB/ LANC PCB Link Signal
CN5-2	+5V	LANC PCB CN200-3		+5 VDC Power Supply
CN5-3	RXD	LANC PCB CN200-2		Reception Data Signal

CN6

LANB PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN6-1	RDM	LANC PCB CN200-5		Reception Data "-" Signal
CN6-2	RDP	LANC PCB CN200-6		Reception Data "+" Signal
CN6-3	TDM	LANC PCB CN200-7		Transmission Data "-" Signal
CN6-4	TDP	LANC PCB CN200-8		Transmission Data "+" Signal

3.24. LANC PC Board

CN200

Refer to LANB PC Board CN5 and CN6.

3.25. EP PC Board

CN1

Refer to SC PC Board CN121.

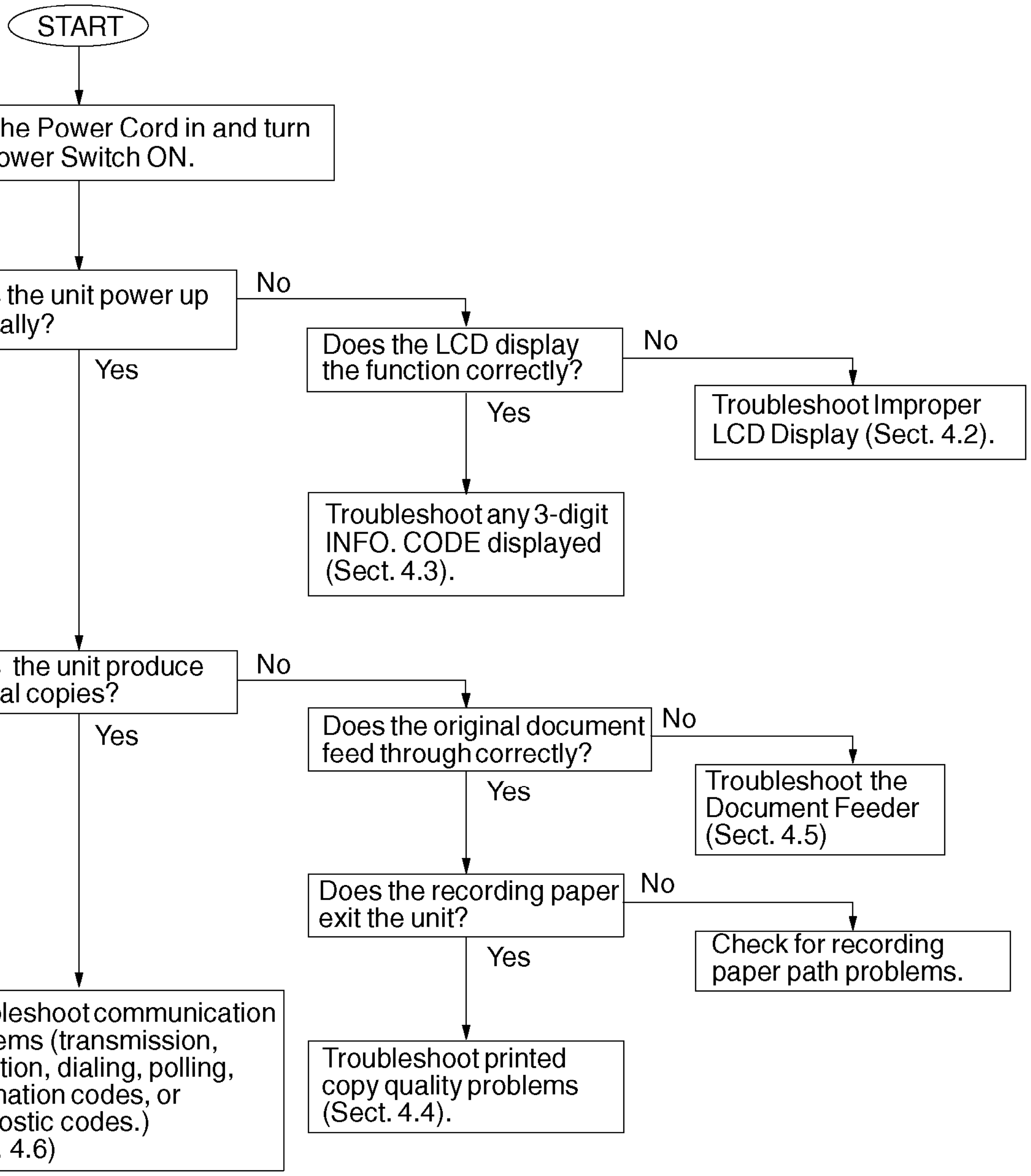
3.26. SRU PC Board (Optional)

CN91

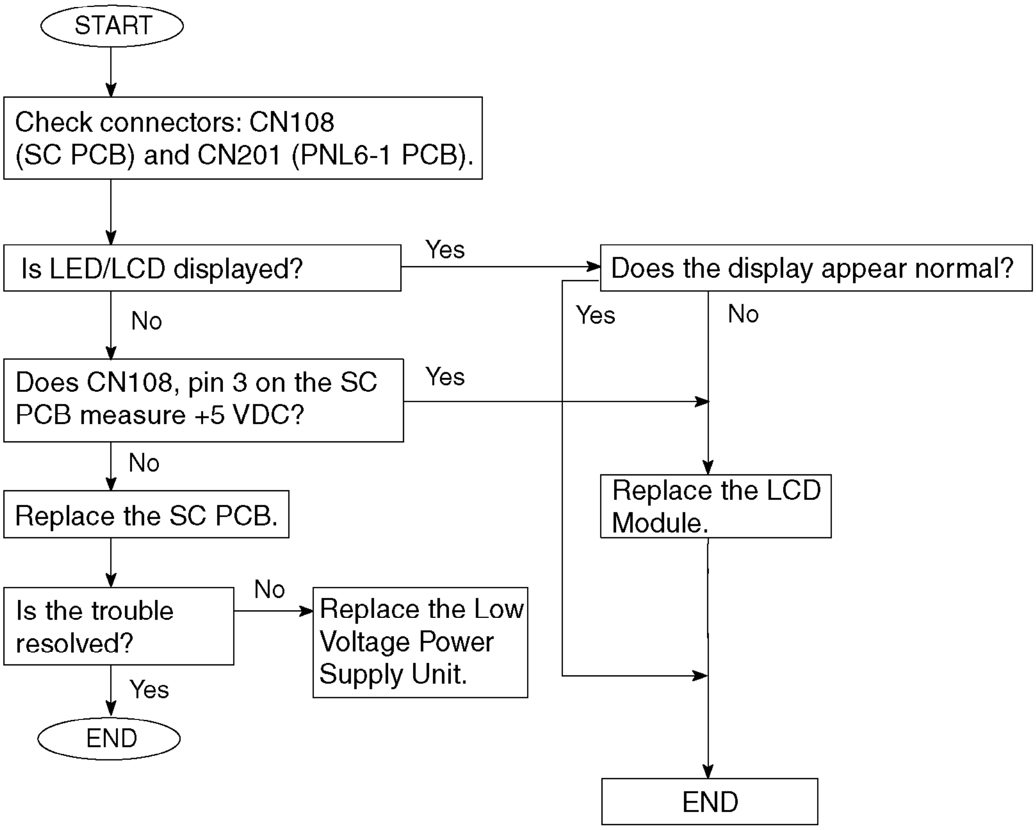
SRU PCB Pin No.	Signal Name	Destination	Signal Waveform	Function
CN91-1	MIC (+)	Telephone Handset CN		Handset Microphone
CN91-2	RCV (+)	Telephone Handset CN		Handset Receiver
CN91-3	RCV (-)	Telephone Handset CN		Handset Receiver
CN91-4	MIC (-)	Telephone Handset CN		Handset Microphone

4 Troubleshooting

4.1. Initial Troubleshooting Flowchart

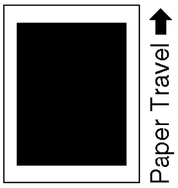

START
Plug the Power Cord in and turn the Power Switch ON.
Does the unit power up normally?
No
Yes
Does the LCD display the function correctly?
No
Yes
Troubleshoot Improper LCD Display (Sect. 4.2).
Troubleshoot any 3-digit INFO. CODE displayed (Sect. 4.3).
Does the unit produce normal copies?
No
Yes
Does the original document feed through correctly?
No
Yes
Troubleshoot the Document Feeder (Sect. 4.5)
Does the recording paper exit the unit?
No
Yes
Check for recording paper path problems.
Troubleshoot communication problems (transmission, reception, dialing, polling, information codes, or diagnostic codes.) (Sect. 4.6)
Troubleshoot printed copy quality problems (Sect. 4.4).

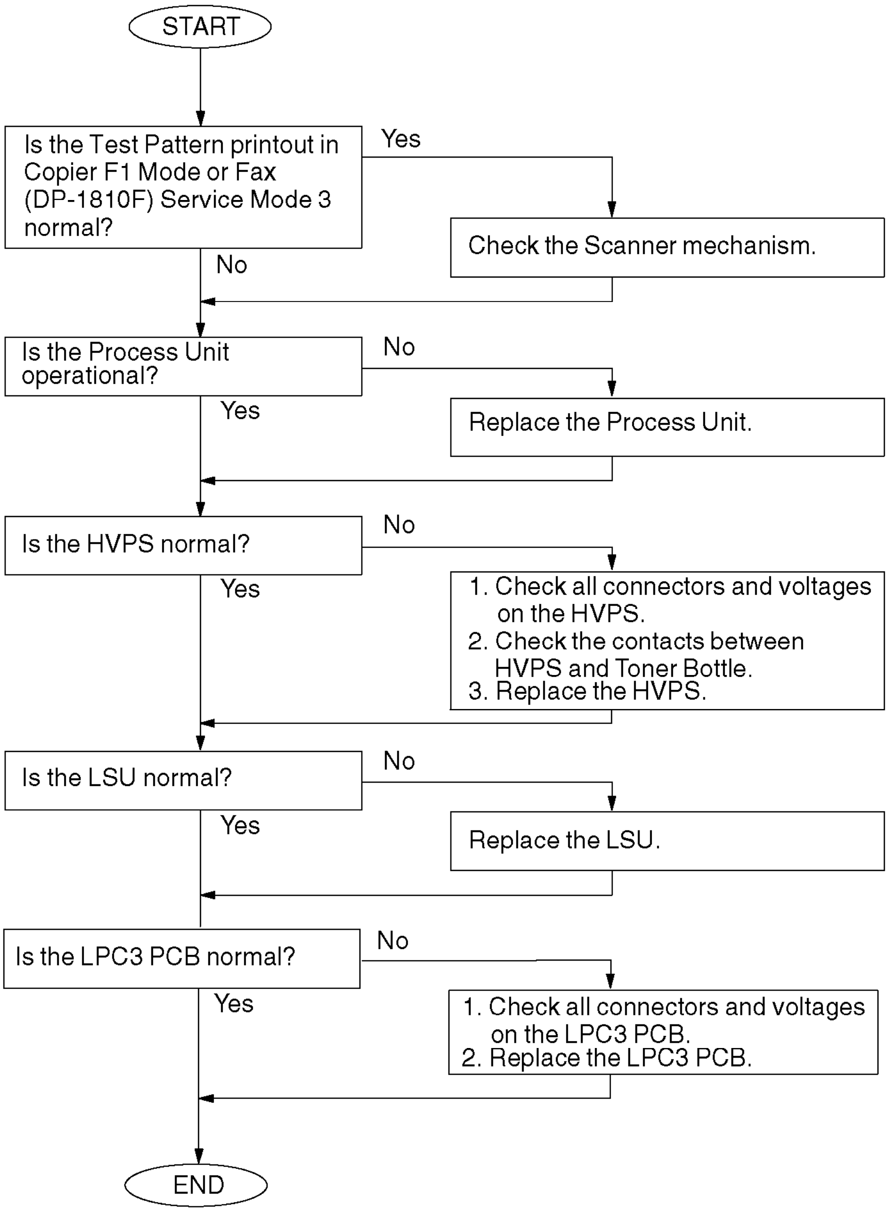
4.2. Improper LCD Display


START
Check connectors: CN108 (SC PCB) and CN201 (PNL6-1 PCB).
Is LED/LCD displayed?
Yes
Does the display appear normal?
Yes
No
No
Does CN108, pin 3 on the SC PCB measure +5 VDC?
Yes
No
Replace the SC PCB.
Replace the LCD Module.
Is the trouble resolved?
No
Replace the Low Voltage Power Supply Unit.
Yes
END
END

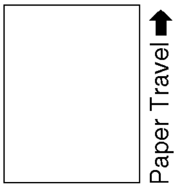
4.3. Printed Copy Quality Problems

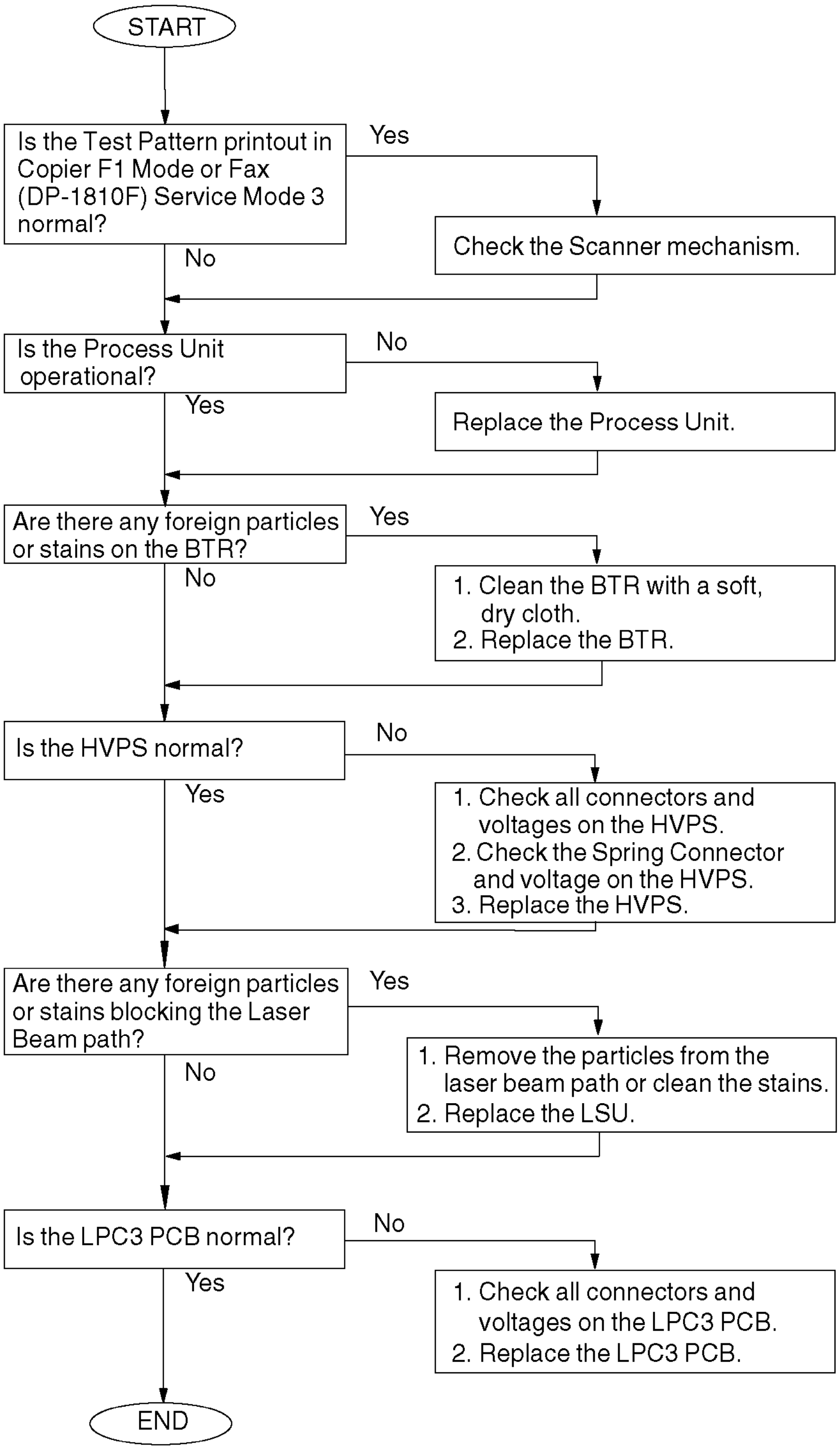
4.3.1. Black Copy


Paper Travel

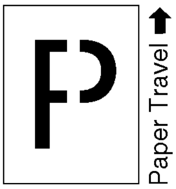

START
Is the Test Pattern printout in Copier F1 Mode or Fax (DP-1810F) Service Mode 3 normal?
Yes
Check the Scanner mechanism.
No
Is the Process Unit operational?
No
Replace the Process Unit.
Yes
Is the HVPS normal?
No
1. Check all connectors and voltages on the HVPS.
2. Check the contacts between HVPS and Toner Bottle.
3. Replace the HVPS.
Yes
Is the LSU normal?
No
Replace the LSU.
Yes
Is the LPC3 PCB normal?
No
1. Check all connectors and voltages on the LPC3 PCB.
2. Replace the LPC3 PCB.
Yes
END

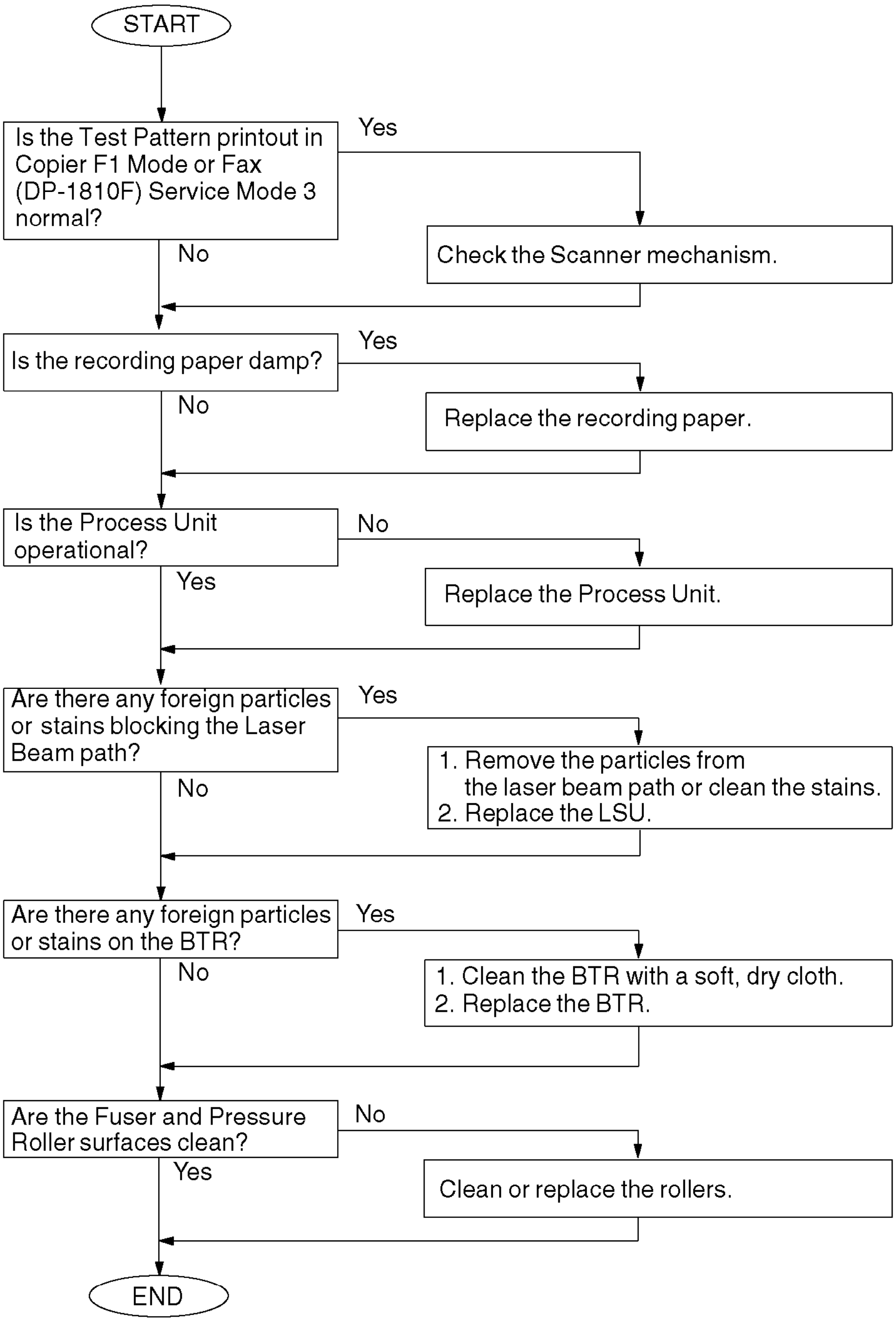
4.3.2. Blank Copy


Paper Travel

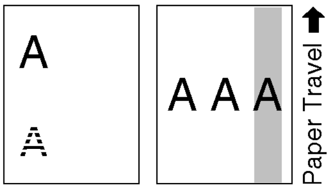

START
Is the Test Pattern printout in Copier F1 Mode or Fax (DP-1810F) Service Mode 3 normal?
Yes
Check the Scanner mechanism.
No
Is the Process Unit operational?
No
Replace the Process Unit.
Yes
Are there any foreign particles or stains on the BTR?
Yes
1. Clean the BTR with a soft, dry cloth.
2. Replace the BTR.
No
Is the HVPS normal?
No
1. Check all connectors and voltages on the HVPS.
2. Check the Spring Connector and voltage on the HVPS.
3. Replace the HVPS.
Yes
Are there any foreign particles or stains blocking the Laser Beam path?
Yes
1. Remove the particles from the laser beam path or clean the stains.
2. Replace the LSU.
No
Is the LPC3 PCB normal?
No
1. Check all connectors and voltages on the LPC3 PCB.
2. Replace the LPC3 PCB.
Yes
END

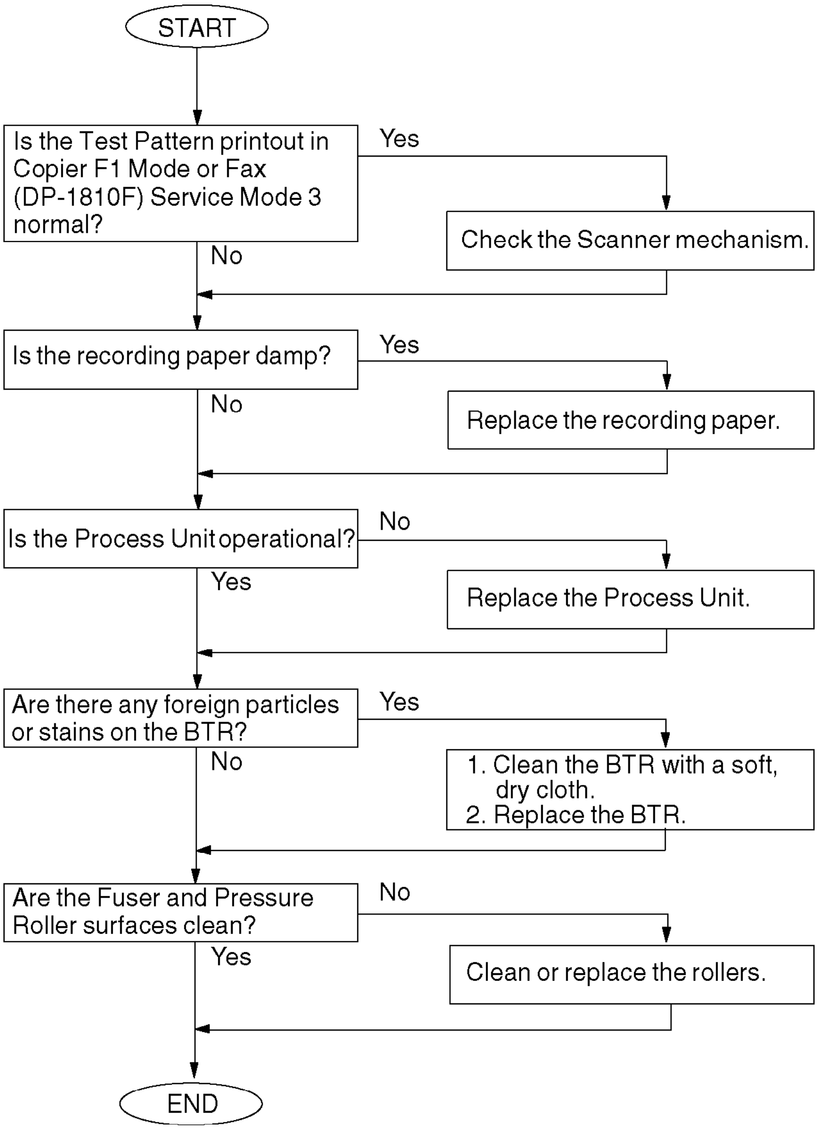
4.3.3. Vertical White Lines


Paper Travel

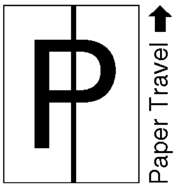

START
Is the Test Pattern printout in Copier F1 Mode or Fax (DP-1810F) Service Mode 3 normal?
Yes
Check the Scanner mechanism.
No
Is the recording paper damp?
Yes
Replace the recording paper.
No
Is the Process Unit operational?
No
Replace the Process Unit.
Yes
Are there any foreign particles or stains blocking the Laser Beam path?
Yes
1. Remove the particles from the laser beam path or clean the stains.
2. Replace the LSU.
No
Are there any foreign particles or stains on the BTR?
Yes
1. Clean the BTR with a soft, dry cloth.
2. Replace the BTR.
No
Are the Fuser and Pressure Roller surfaces clean?
No
Clean or replace the rollers.
Yes
END

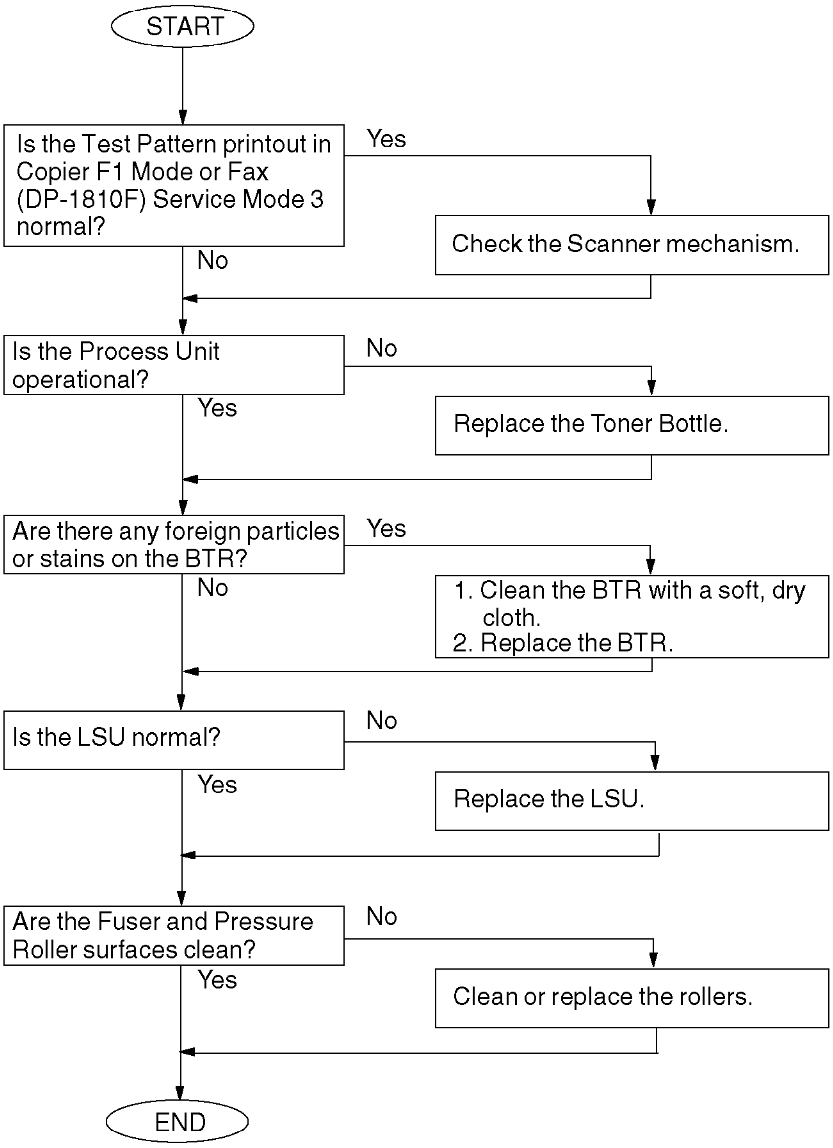
4.3.4. Ghost Images


A
A
A A A
Paper Travel

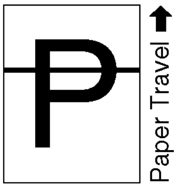

START
Is the Test Pattern printout in Copier F1 Mode or Fax (DP-1810F) Service Mode 3 normal?
Yes
Check the Scanner mechanism.
No
Is the recording paper damp?
Yes
Replace the recording paper.
No
Is the Process Unit operational?
No
Replace the Process Unit.
Yes
Are there any foreign particles or stains on the BTR?
Yes
1. Clean the BTR with a soft, dry cloth.
2. Replace the BTR.
No
Are the Fuser and Pressure Roller surfaces clean?
No
Clean or replace the rollers.
Yes
END

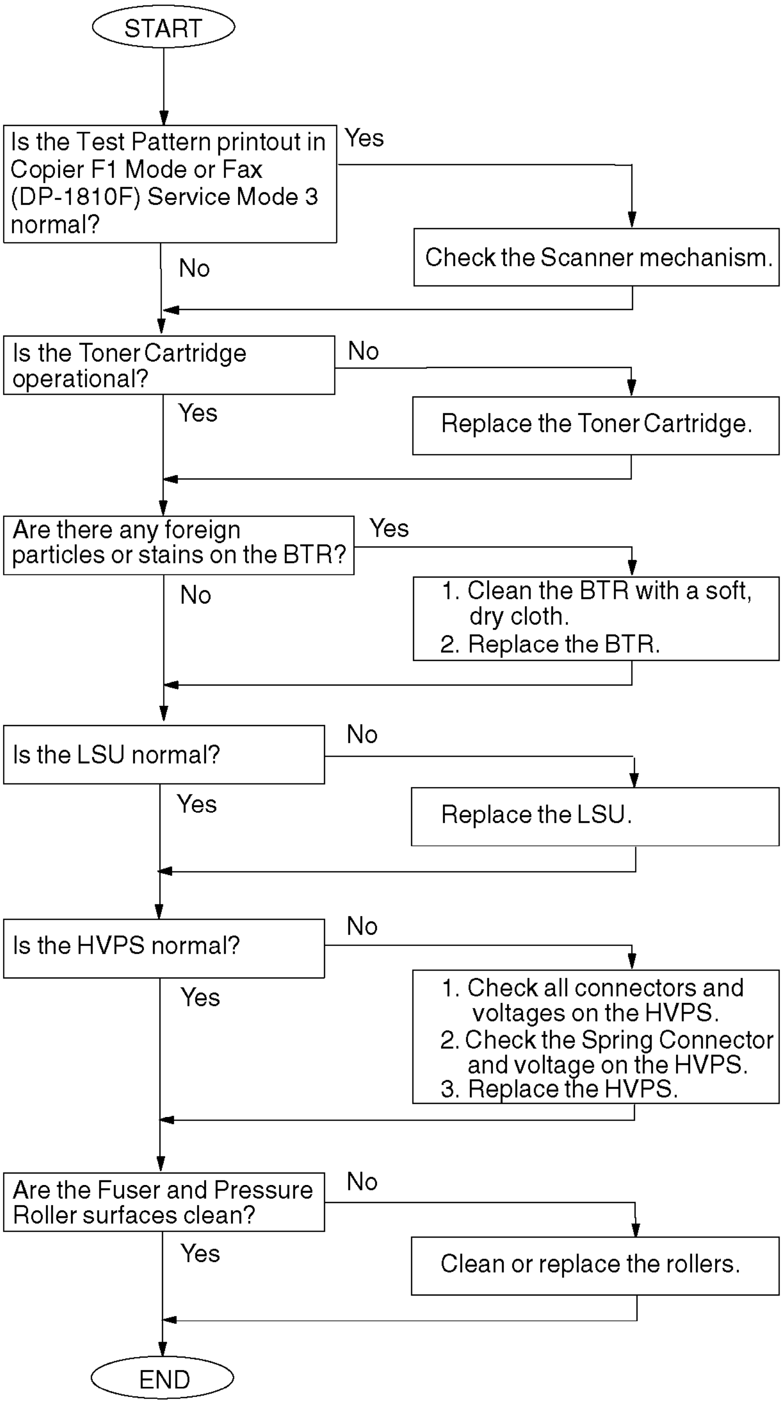
4.3.5. Vertical Dark Lines


P
Paper Travel

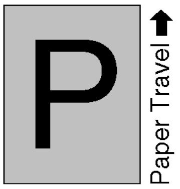

START
Is the Test Pattern printout in Copier F1 Mode or Fax (DP-1810F) Service Mode 3 normal?
Yes
Check the Scanner mechanism.
No
Is the Process Unit operational?
No
Replace the Toner Bottle.
Yes
Are there any foreign particles or stains on the BTR?
Yes
1. Clean the BTR with a soft, dry cloth.
2. Replace the BTR.
No
Is the LSU normal?
No
Replace the LSU.
Yes
Are the Fuser and Pressure Roller surfaces clean?
No
Clean or replace the rollers.
Yes
END

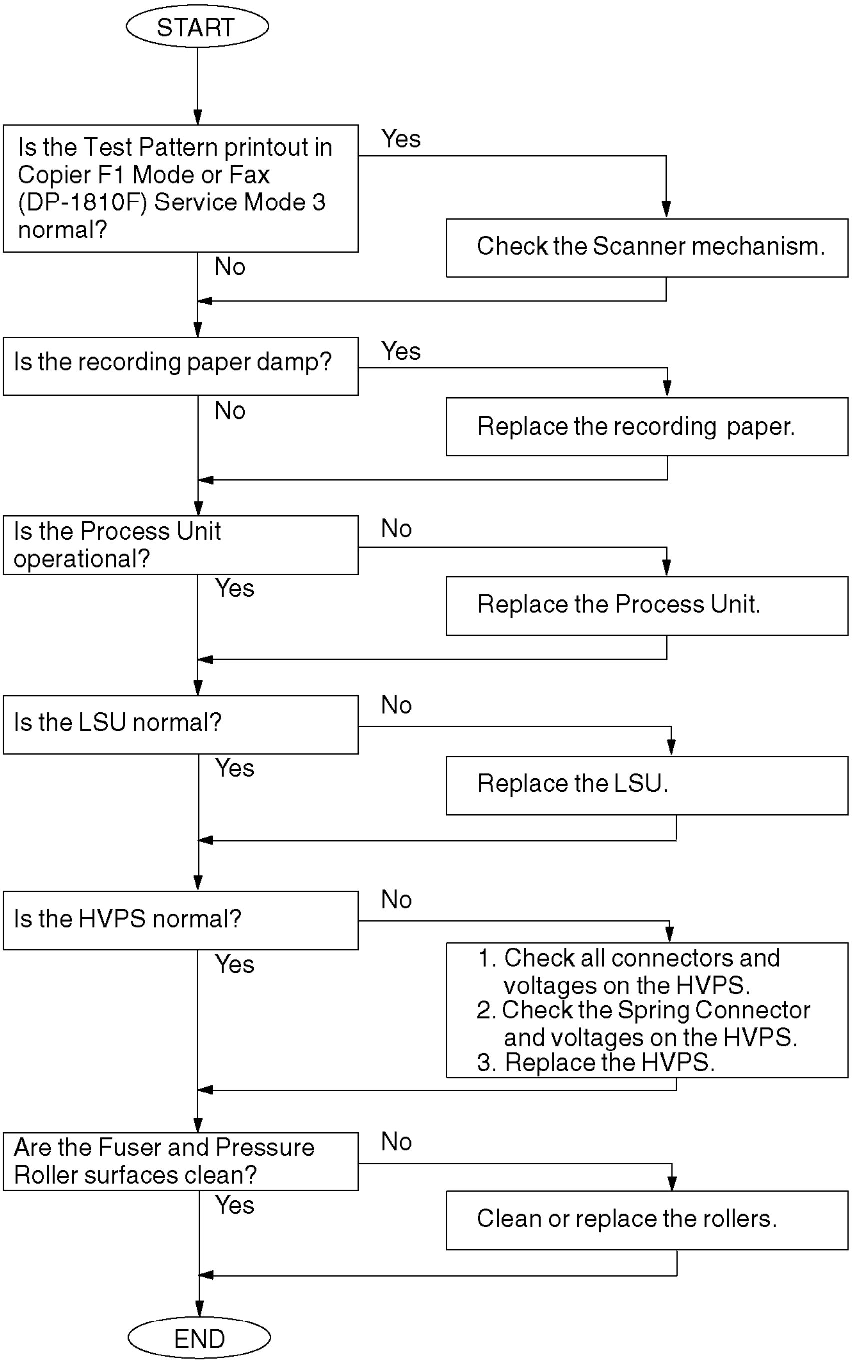
4.3.6. Horizontal Dark Lines


P
Paper Travel

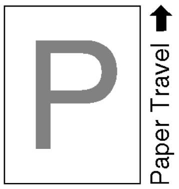

START
Is the Test Pattern printout in Copier F1 Mode or Fax (DP-1810F) Service Mode 3 normal?
Yes
Check the Scanner mechanism.
No
Is the Toner Cartridge operational?
No
Replace the Toner Cartridge.
Yes
Are there any foreign particles or stains on the BTR?
Yes
1. Clean the BTR with a soft, dry cloth.
2. Replace the BTR.
No
Is the LSU normal?
No
Replace the LSU.
Yes
Is the HVPS normal?
No
1. Check all connectors and voltages on the HVPS.
2. Check the Spring Connector and voltage on the HVPS.
3. Replace the HVPS.
Yes
Are the Fuser and Pressure Roller surfaces clean?
No
Clean or replace the rollers.
Yes
END

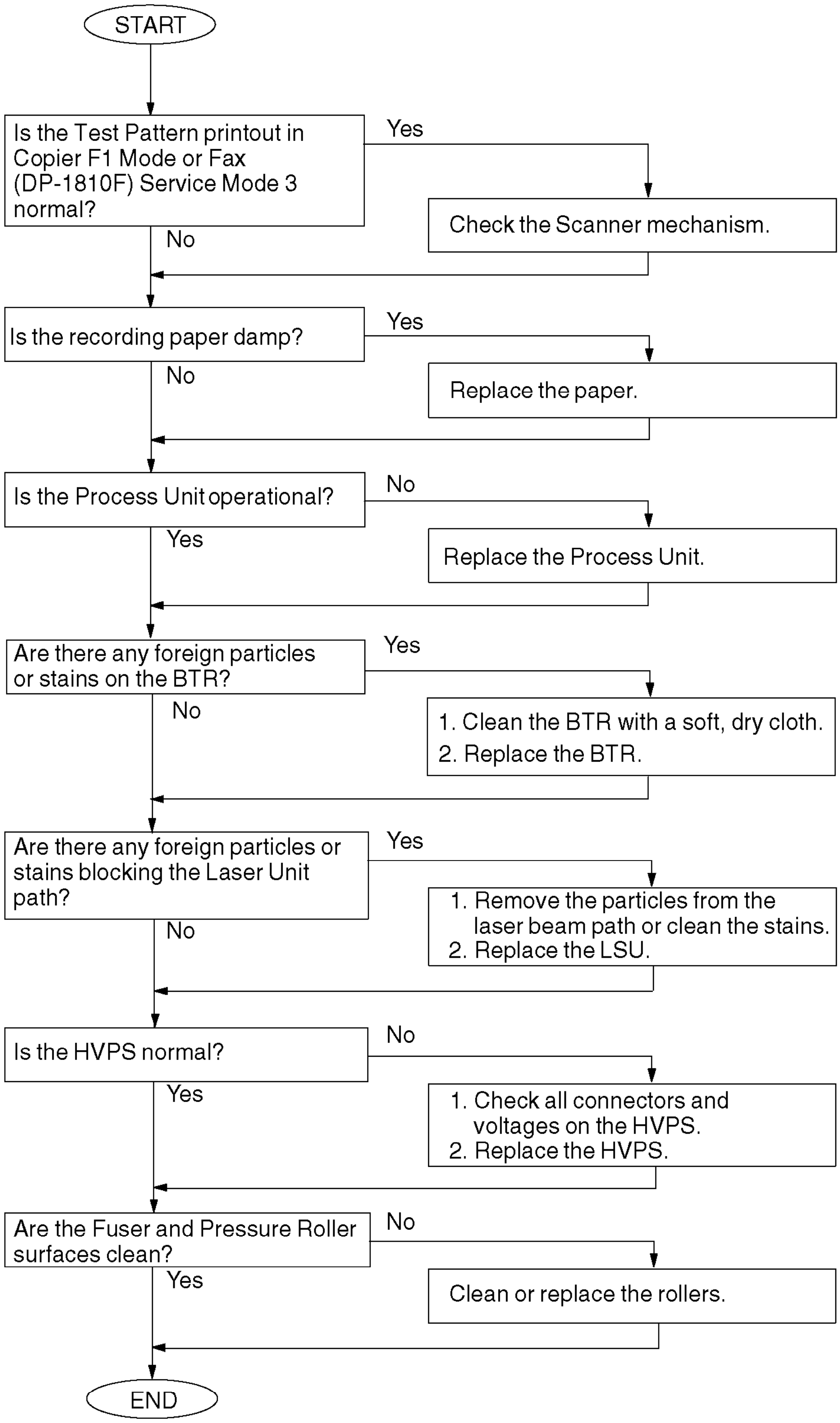
4.3.7. Dark Background


P
Paper Travel

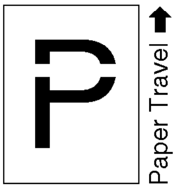

START
Is the Test Pattern printout in Copier F1 Mode or Fax (DP-1810F) Service Mode 3 normal?
Yes
Check the Scanner mechanism.
No
Is the recording paper damp?
Yes
Replace the recording paper.
No
Is the Process Unit operational?
No
Replace the Process Unit.
Yes
Is the LSU normal?
No
Replace the LSU.
Yes
Is the HVPS normal?
No
1. Check all connectors and voltages on the HVPS.
2. Check the Spring Connector and voltages on the HVPS.
3. Replace the HVPS.
Yes
Are the Fuser and Pressure Roller surfaces clean?
No
Clean or replace the rollers.
Yes
END

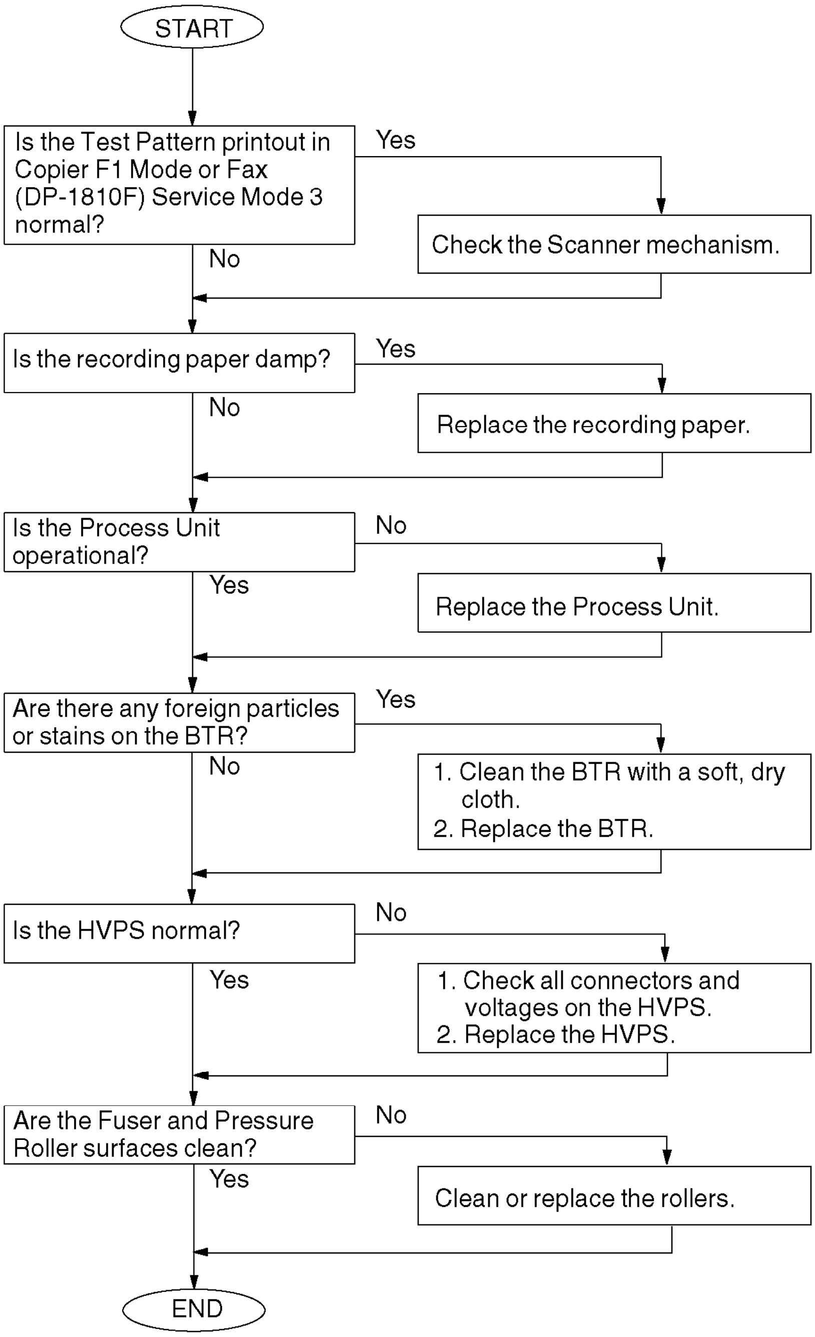
4.3.8. Light Print


P
Paper Travel

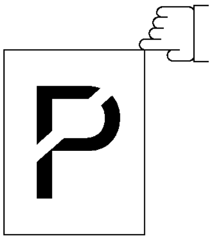

START
Is the Test Pattern printout in Copier F1 Mode or Fax (DP-1810F) Service Mode 3 normal?
Yes
Check the Scanner mechanism.
No
Is the recording paper damp?
Yes
Replace the paper.
No
Is the Process Unit operational?
No
Replace the Process Unit.
Yes
Are there any foreign particles or stains on the BTR?
Yes
1. Clean the BTR with a soft, dry cloth.
2. Replace the BTR.
No
Are there any foreign particles or stains blocking the Laser Unit path?
Yes
1. Remove the particles from the laser beam path or clean the stains.
2. Replace the LSU.
No
Is the HVPS normal?
No
1. Check all connectors and voltages on the HVPS.
2. Replace the HVPS.
Yes
Are the Fuser and Pressure Roller surfaces clean?
No
Clean or replace the rollers.
Yes
END

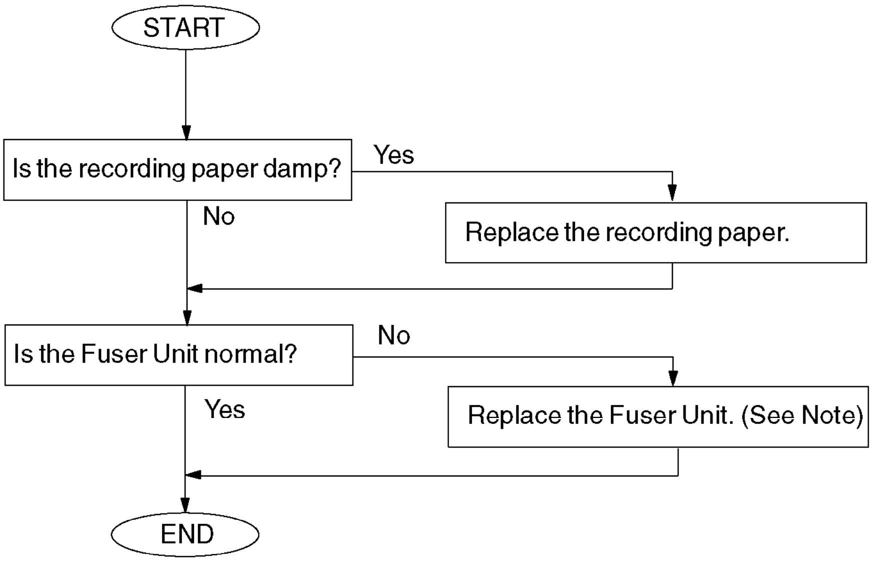
4.3.9. Horizontal White Lines


P
Paper Travel


START
Is the Test Pattern printout in Copier F1 Mode or Fax (DP-1810F) Service Mode 3 normal?
Yes
Check the Scanner mechanism.
No
Is the recording paper damp?
Yes
Replace the recording paper.
No
Is the Process Unit operational?
No
Replace the Process Unit.
Yes
Are there any foreign particles or stains on the BTR?
Yes
1. Clean the BTR with a soft, dry cloth.
2. Replace the BTR.
No
Is the HVPS normal?
No
1. Check all connectors and voltages on the HVPS.
2. Replace the HVPS.
Yes
Are the Fuser and Pressure Roller surfaces clean?
No
Clean or replace the rollers.
Yes
END

4.3.10. Improper Fusing (Printed image does not bond to the paper)

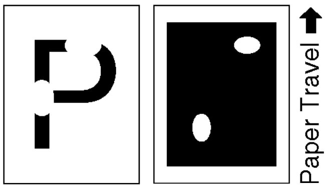


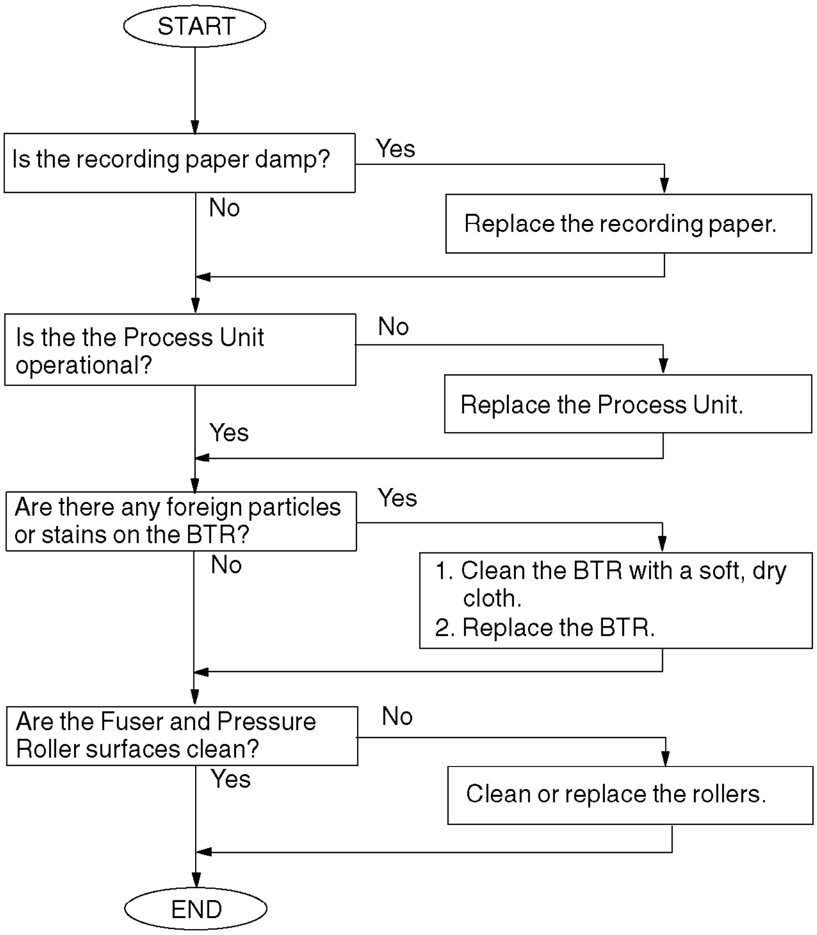

START
Is the recording paper damp?
Yes
Replace the recording paper.
No
Is the Fuser Unit normal?
No
Replace the Fuser Unit. (See Note)
Yes
END

Note:

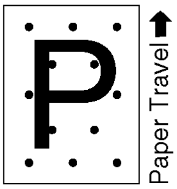
Replace the entire Fuser Unit when the Thermostat, the Thermal Fuse or the Thermistor Assembly becomes an open-circuit.

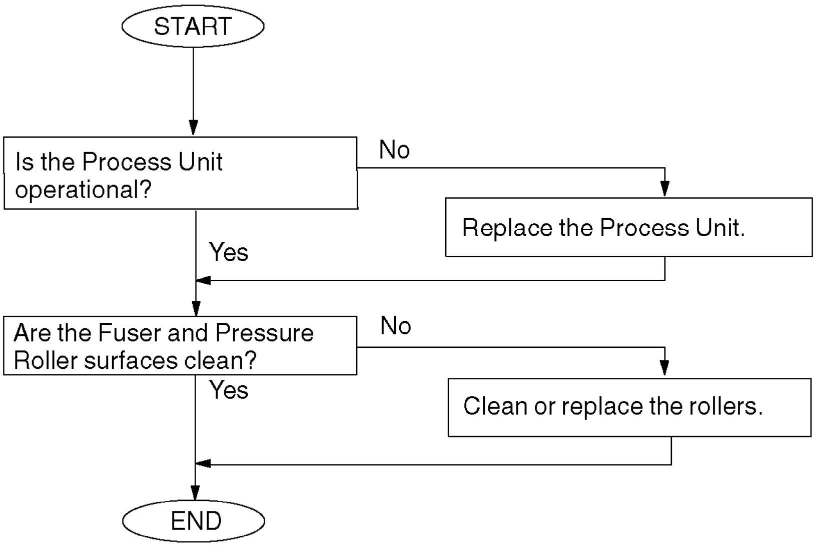
4.3.11. Voids in Solid Areas


Paper Travel

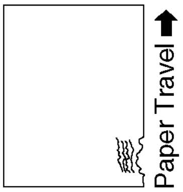

START
Is the recording paper damp?
Yes
Replace the recording paper.
No
Is the the Process Unit operational?
No
Replace the Process Unit.
Yes
Are there any foreign particles or stains on the BTR?
Yes
1. Clean the BTR with a soft, dry cloth.
2. Replace the BTR.
No
Are the Fuser and Pressure Roller surfaces clean?
No
Clean or replace the rollers.
Yes
END

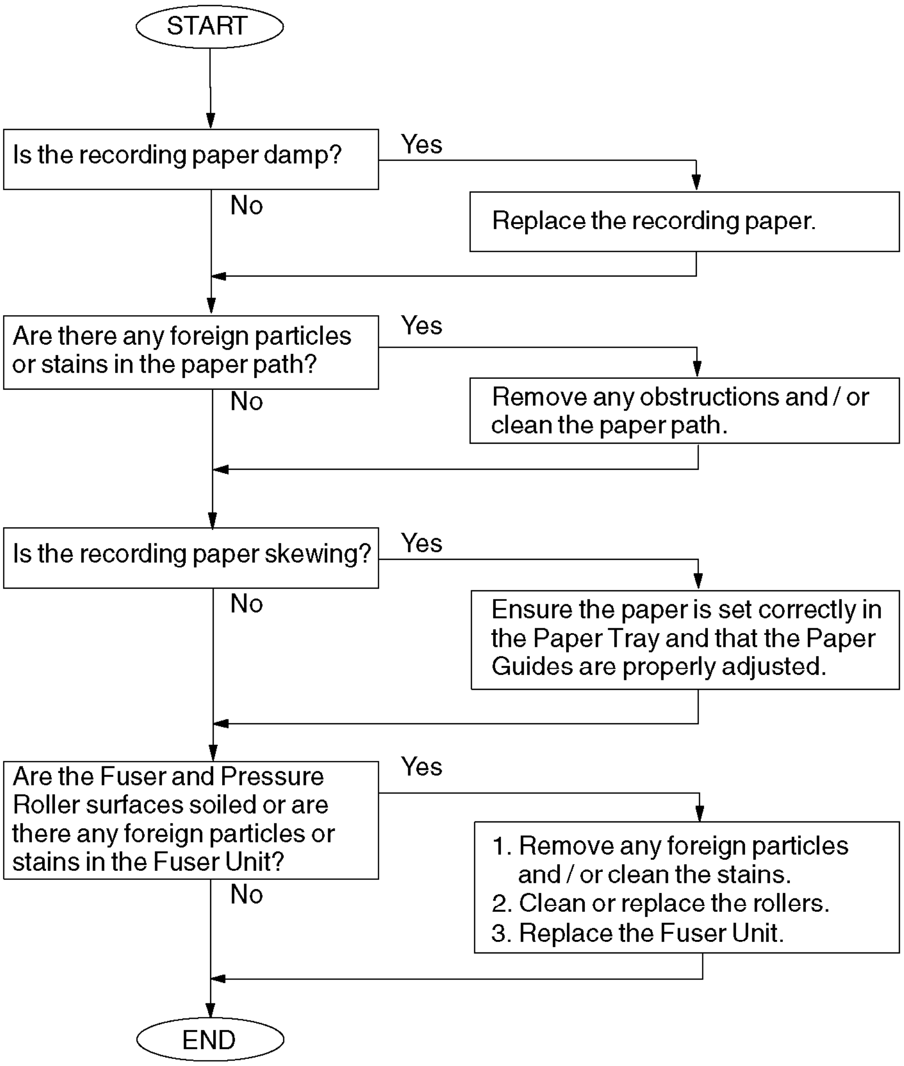
4.3.12. Black Dots


P
Paper Travel

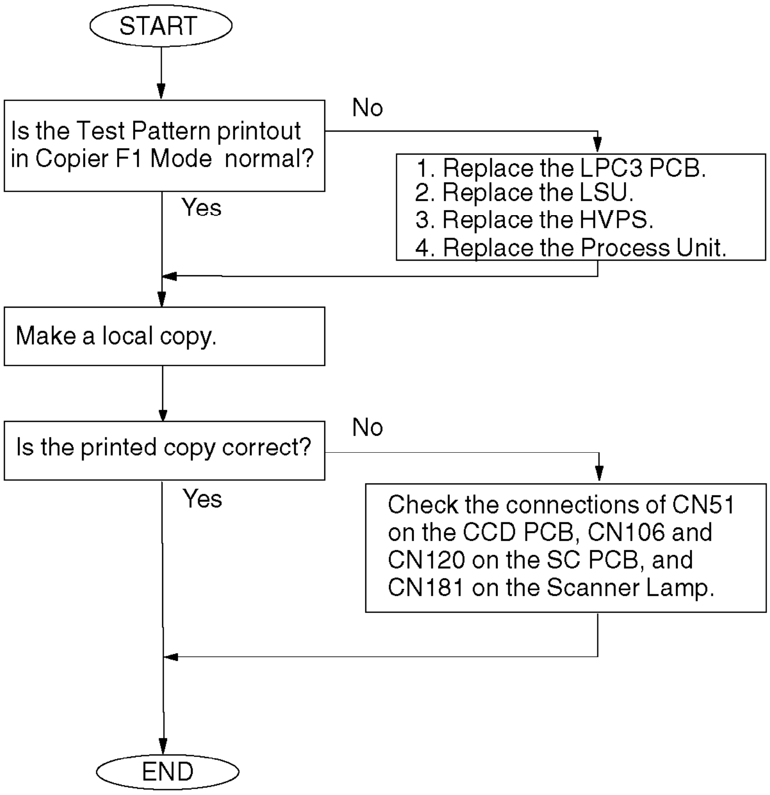

START
Is the Process Unit operational?
No
Replace the Process Unit.
Yes
Are the Fuser and Pressure Roller surfaces clean?
No
Clean or replace the rollers.
Yes
END

4.3.13. Recording Paper Creases

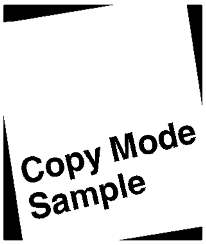

Paper Travel

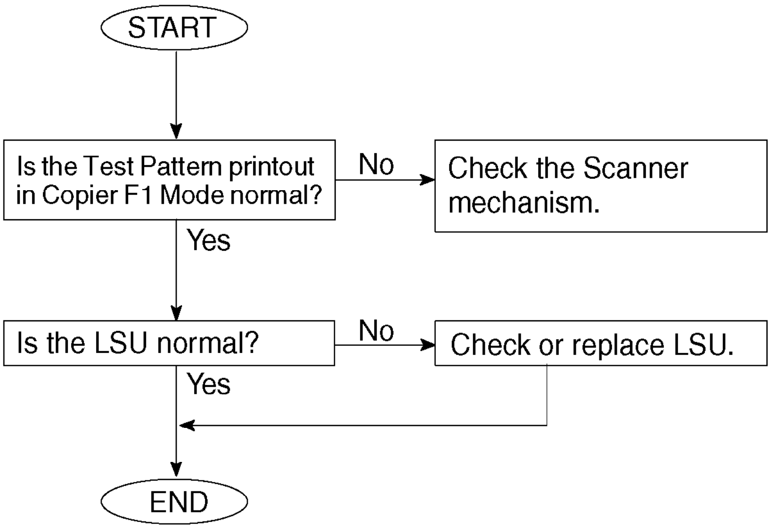

START
Is the recording paper damp?
Yes
Replace the recording paper.
No
Are there any foreign particles or stains in the paper path?
Yes
Remove any obstructions and / or clean the paper path.
No
Is the recording paper skewing?
Yes
Ensure the paper is set correctly in the Paper Tray and that the Paper Guides are properly adjusted.
No
Are the Fuser and Pressure Roller surfaces soiled or are there any foreign particles or stains in the Fuser Unit?
Yes
1. Remove any foreign particles and / or clean the stains.
2. Clean or replace the rollers.
3. Replace the Fuser Unit.
No
END

4.3.14. Poor Printed Copy Quality

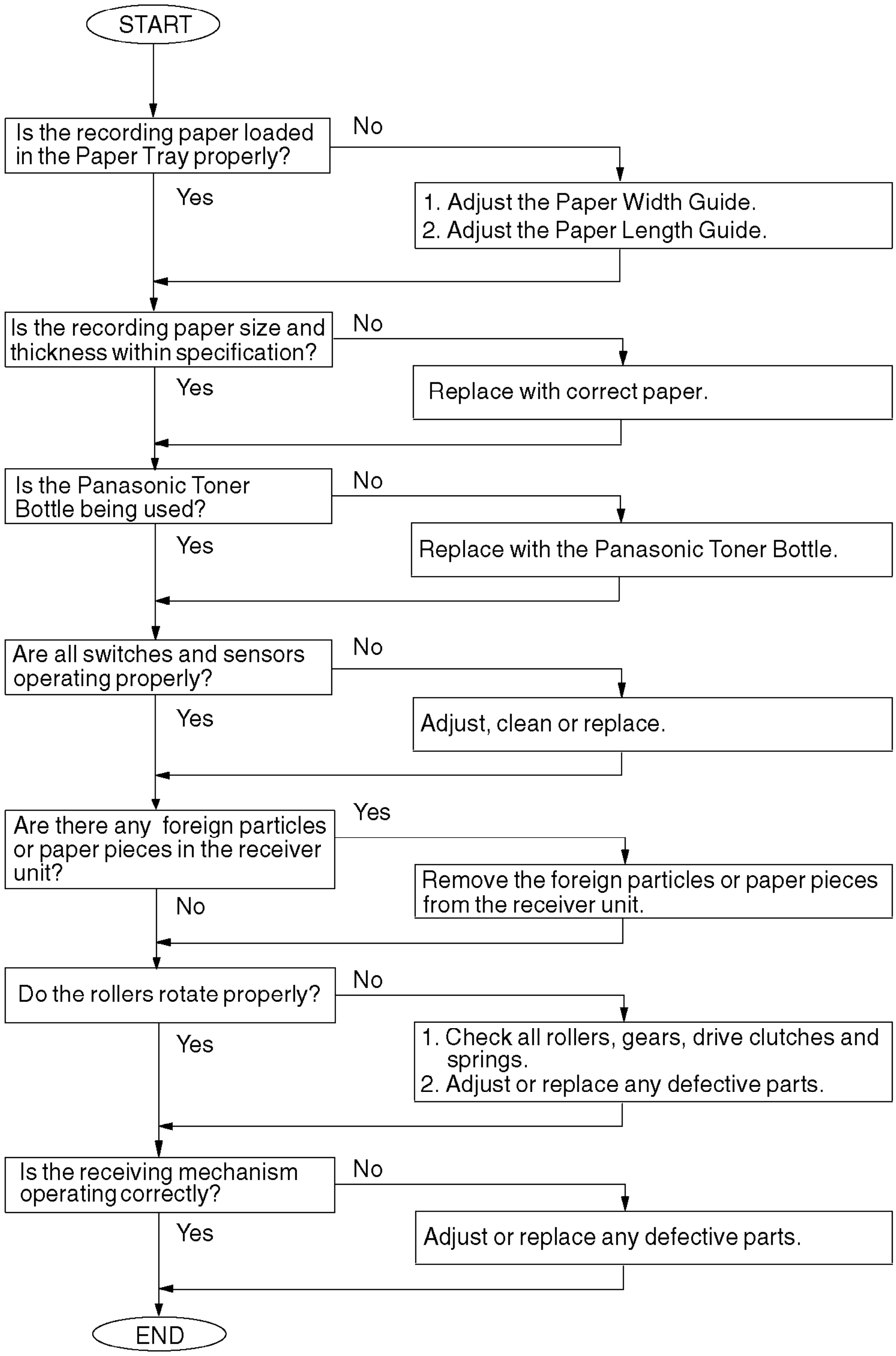

START
Is the Test Pattern printout in Copier F1 Mode normal?
No
1. Replace the LPC3 PCB.
2. Replace the LSU.
3. Replace the HVPS.
4. Replace the Process Unit.
Yes
Make a local copy.
Is the printed copy correct?
No
Check the connections of CN51 on the CCD PCB, CN106 and CN120 on the SC PCB, and CN181 on the Scanner Lamp.
Yes
END

4.3.15. Document Skewing

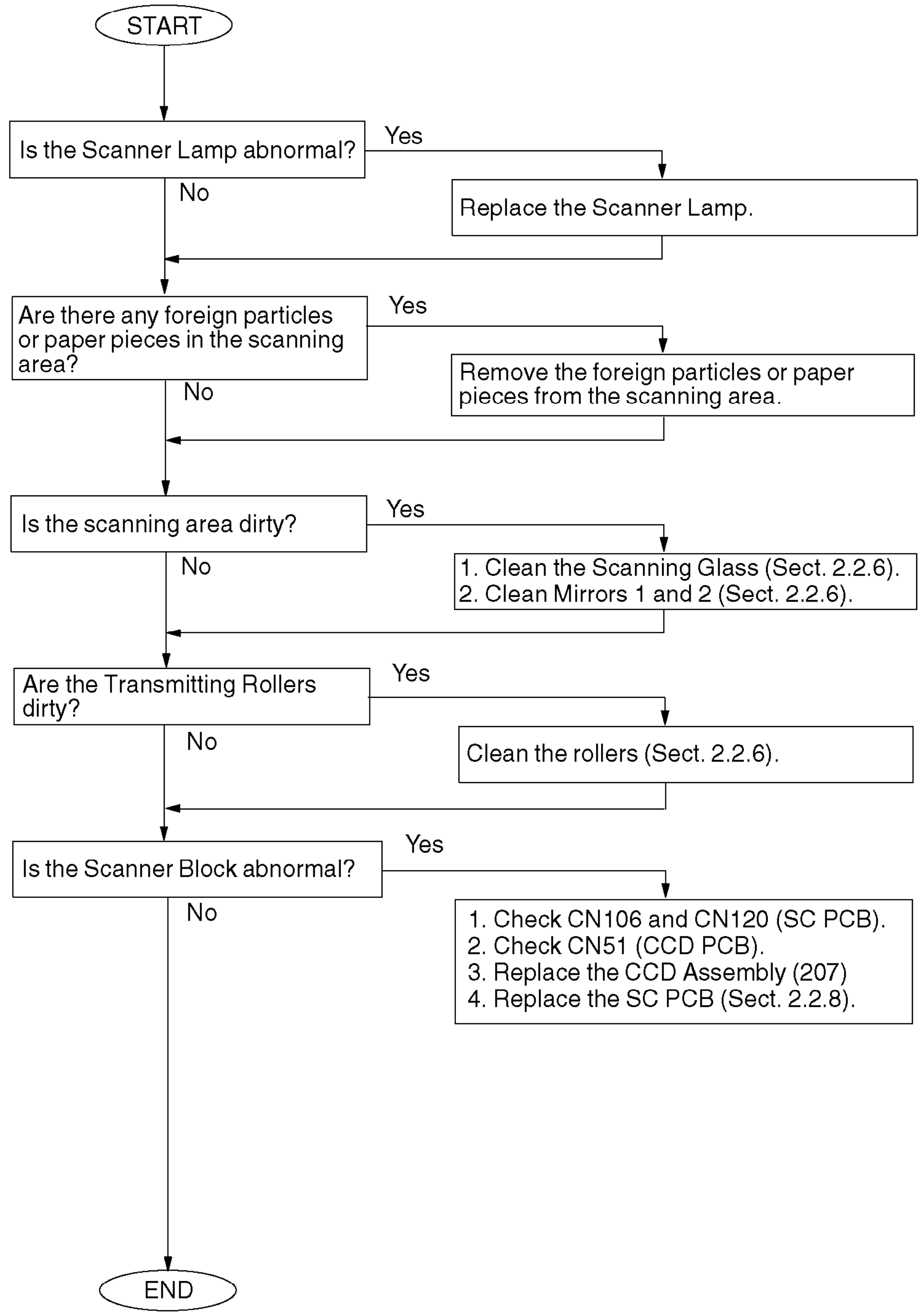

Copy Mode
Sample


START
Is the Test Pattern printout in Copier F1 Mode normal?
No
Check the Scanner mechanism.
Yes
Is the LSU normal?
No
Check or replace LSU.
Yes
END

4.3.16. Abnormal Printing

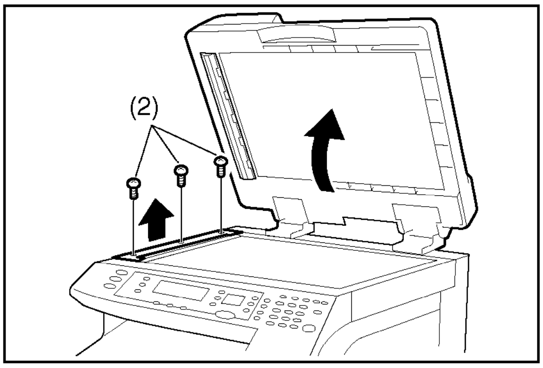

START
Is the recording paper loaded in the Paper Tray properly?
No
1. Adjust the Paper Width Guide.
2. Adjust the Paper Length Guide.
Yes
Is the recording paper size and thickness within specification?
No
Replace with correct paper.
Yes
Is the Panasonic Toner Bottle being used?
No
Replace with the Panasonic Toner Bottle.
Yes
Are all switches and sensors operating properly?
No
Adjust, clean or replace.
Yes
Are there any foreign particles or paper pieces in the receiver unit?
Yes
Remove the foreign particles or paper pieces from the receiver unit.
No
Do the rollers rotate properly?
No
1. Check all rollers, gears, drive clutches and springs.
2. Adjust or replace any defective parts.
Yes
Is the receiving mechanism operating correctly?
No
Adjust or replace any defective parts.
Yes
END

4.3.17. Scanned Copy Quality Problems

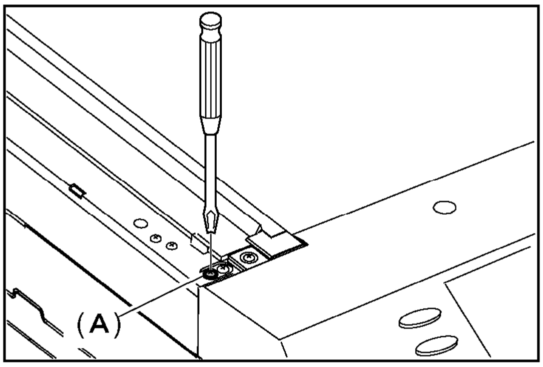

START
Is the Scanner Lamp abnormal?
Yes
No
Replace the Scanner Lamp.
Are there any foreign particles or paper pieces in the scanning area?
Yes
No
Remove the foreign particles or paper pieces from the scanning area.
Is the scanning area dirty?
Yes
No
1. Clean the Scanning Glass (Sect. 2.2.6).
2. Clean Mirrors 1 and 2 (Sect. 2.2.6).
Are the Transmitting Rollers dirty?
Yes
No
Clean the rollers (Sect. 2.2.6).
Is the Scanner Block abnormal?
Yes
No
1. Check CN106 and CN120 (SC PCB).
2. Check CN51 (CCD PCB).
3. Replace the CCD Assembly (207)
4. Replace the SC PCB (Sect. 2.2.8).
END

4.3.18. Print Skew Adjustment for Platen Glass Scanning

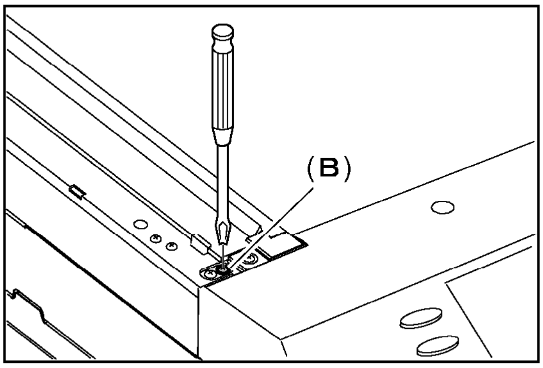
Follow the procedures below to adjust for the skewing when scanning original(s) from the Platen Glass.



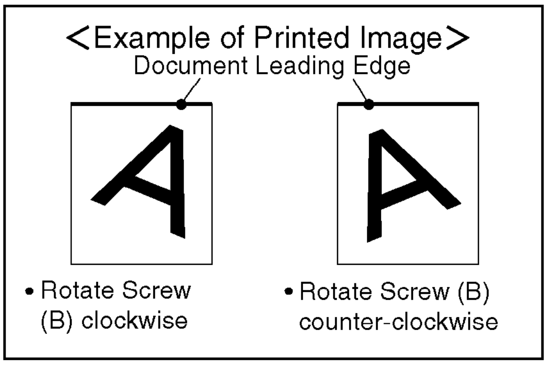
(1) Make sure that the Scanner Unit is in the Standby Mode.
(2) 3 Screws and remove the Left Platen Cover.



(3) Loosen the Left Screw (A).



(4) Adjust the Right Screw (B) to correct for the skew of the leading edge of the document.


<Example of Printed Image>
Document Leading Edge
A
A
• Rotate Screw (B) clockwise
• Rotate Screw (B) counter-clockwise

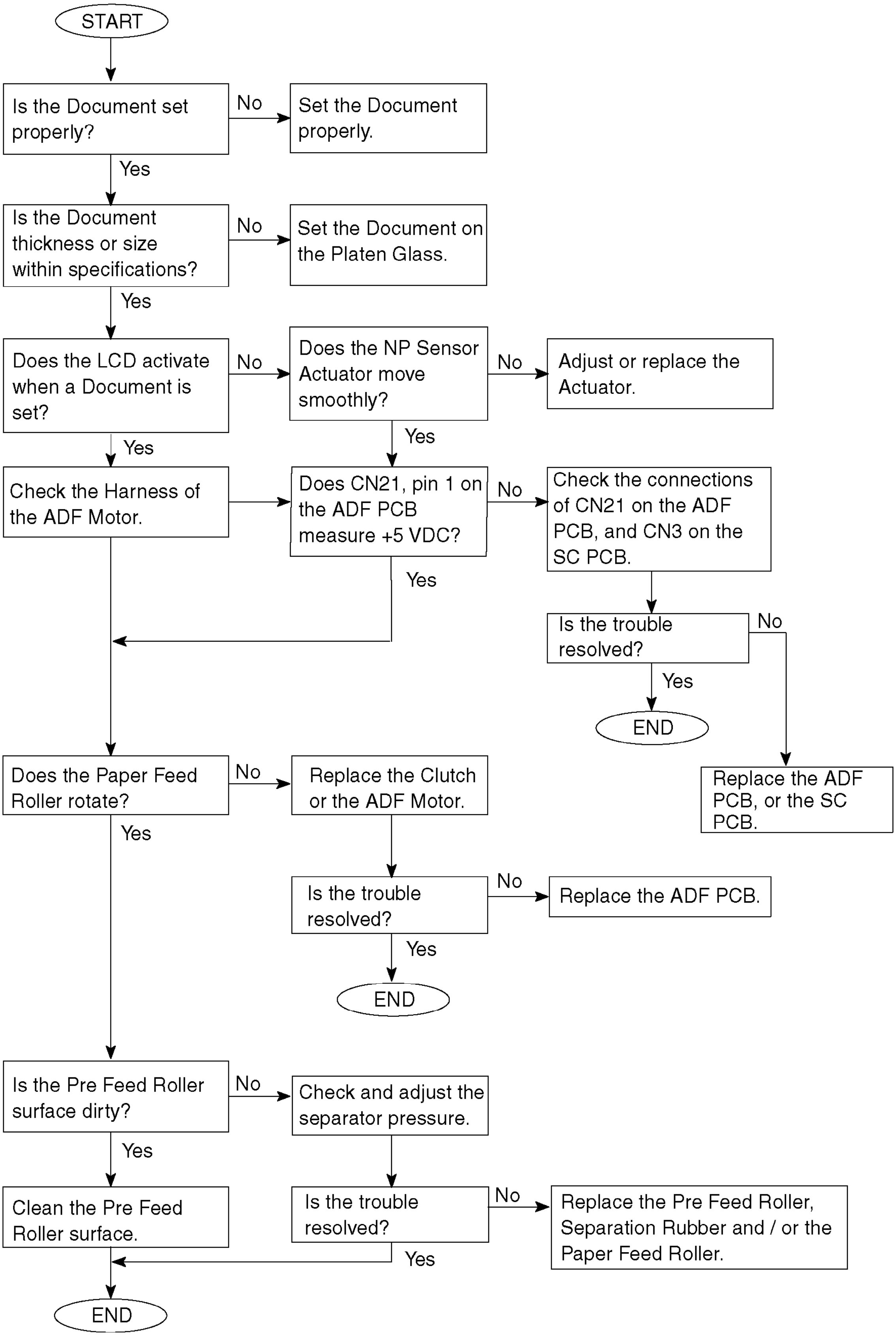
<Direction of Rotation and Skew Adjustment Amount>

- Clockwise → When the printed image is skewed to the right side.
- Counter-clockwise → When the printed image is skewed to the left side.
- Rotation and amount of movement → One rotation of the screw, adjusts the skewed image by approximately 1 mm.

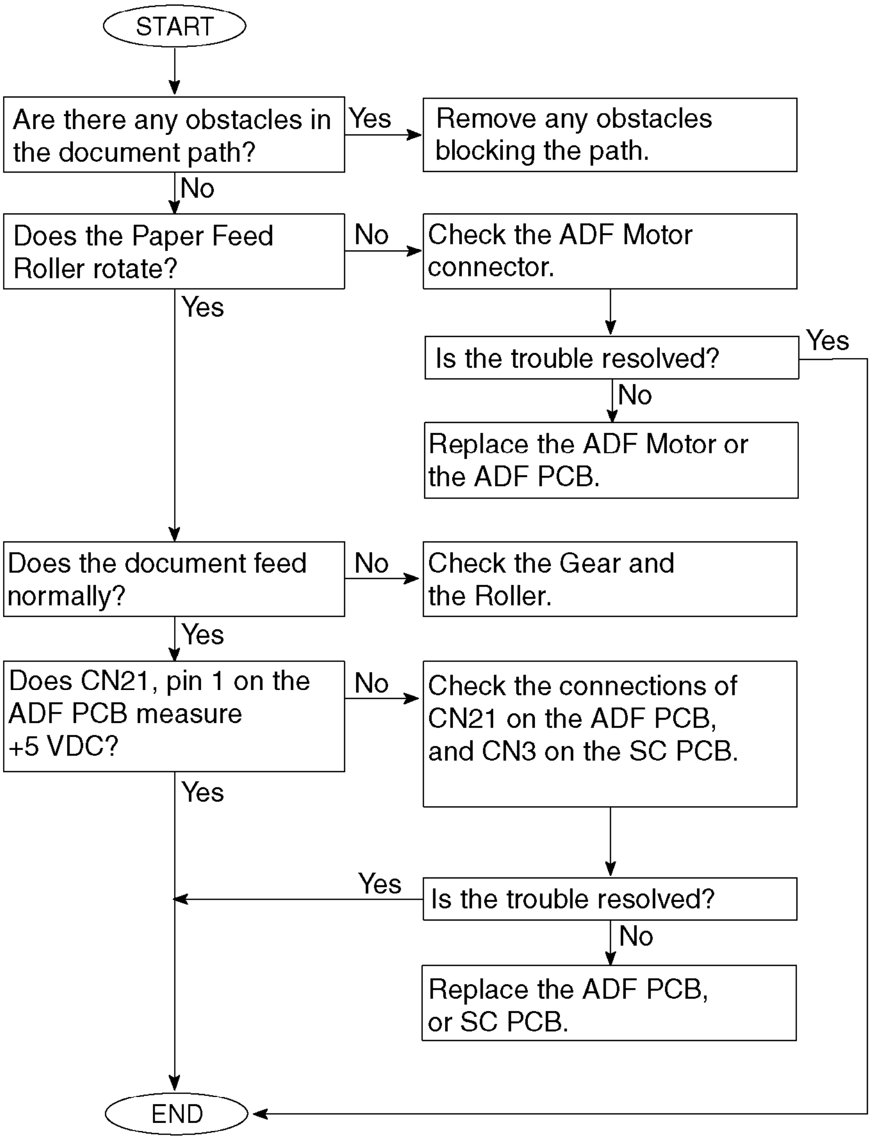
(5) Make a copy to confirm the correction.
(6) Perform the Service Mode F6 (No.2) to adjust the Top field, if necessary.
(7) Tighten Screw (A) and re-install the Left Platen Cover.

4.4. Document Feeder (ADF)

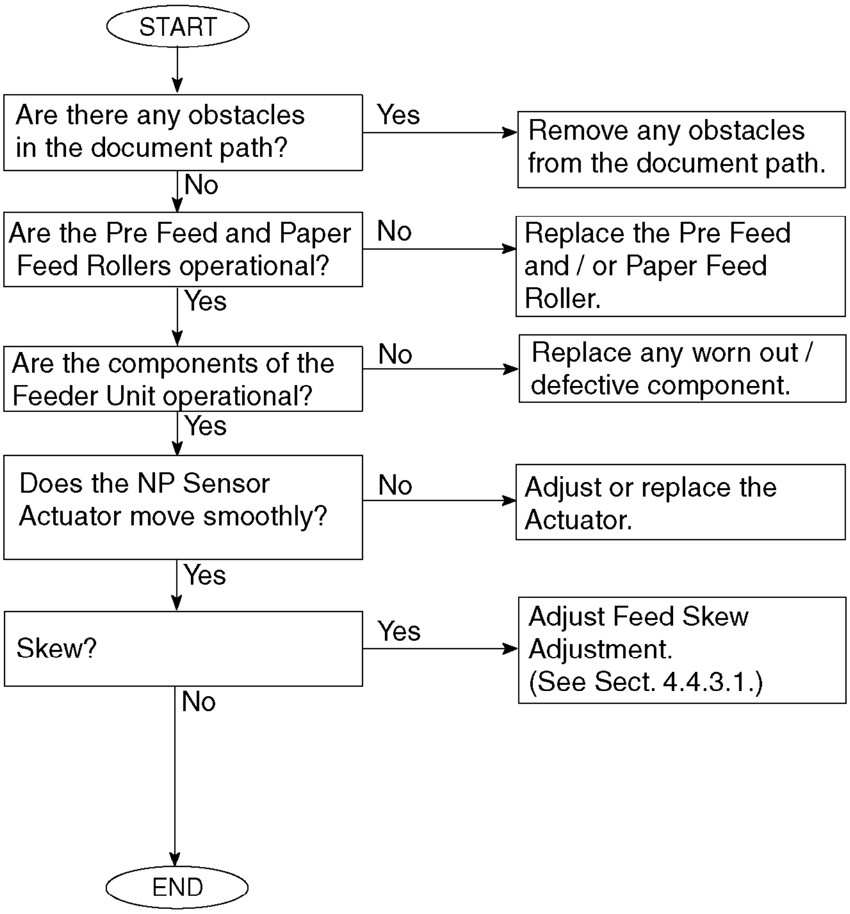
4.4.1. No Document Feed


START
Is the Document set properly?
No
Set the Document properly.
Yes
Is the Document thickness or size within specifications?
No
Set the Document on the Platen Glass.
Yes
Does the LCD activate when a Document is set?
No
Does the NP Sensor Actuator move smoothly?
No
Adjust or replace the Actuator.
Yes
Yes
Check the Harness of the ADF Motor.
Does CN21, pin 1 on the ADF PCB measure +5 VDC?
No
Check the connections of CN21 on the ADF PCB, and CN3 on the SC PCB.
Yes
Is the trouble resolved?
No
Yes
END
Replace the ADF PCB, or the SC PCB.
Does the Paper Feed Roller rotate?
No
Replace the Clutch or the ADF Motor.
Yes
Is the trouble resolved?
No
Replace the ADF PCB.
Yes
END
Is the Pre Feed Roller surface dirty?
No
Check and adjust the separator pressure.
Yes
Clean the Pre Feed Roller surface.
Is the trouble resolved?
No
Replace the Pre Feed Roller, Separation Rubber and / or the Paper Feed Roller.
Yes
END

4.4.2. Document Jam

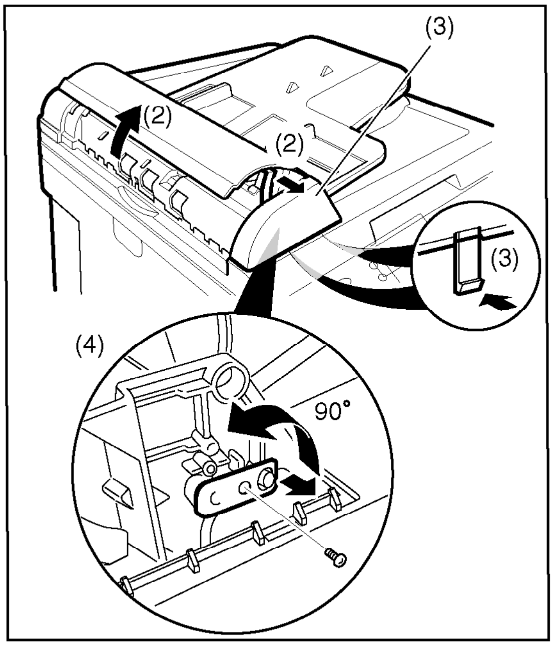

START
Are there any obstacles in the document path?
Yes
Remove any obstacles blocking the path.
No
Does the Paper Feed Roller rotate?
No
Check the ADF Motor connector.
Is the trouble resolved?
Yes
No
Replace the ADF Motor or the ADF PCB.
Yes
Does the document feed normally?
No
Check the Gear and the Roller.
Yes
Does CN21, pin 1 on the ADF PCB measure +5 VDC?
No
Check the connections of CN21 on the ADF PCB, and CN3 on the SC PCB.
Yes
Yes
Is the trouble resolved?
No
Replace the ADF PCB, or SC PCB.
END

4.4.3. Document Skew


START
Are there any obstacles in the document path?
Yes
Remove any obstacles from the document path.
No
Are the Pre Feed and Paper Feed Rollers operational?
No
Replace the Pre Feed and / or Paper Feed Roller.
Yes
Are the components of the Feeder Unit operational?
No
Replace any worn out / defective component.
Yes
Does the NP Sensor Actuator move smoothly?
No
Adjust or replace the Actuator.
Yes
Skew?
Yes
Adjust Feed Skew Adjustment. (See Sect. 4.4.3.1.)
No
END

4.4.3.1. ADF Feed Skew Adjustment

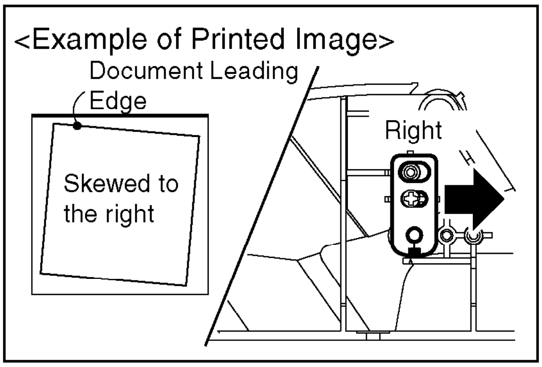
Using a lined Original (about 20 lb (75 g/m²) weight pager), make a copy from the ADF to check for feeding alignment.



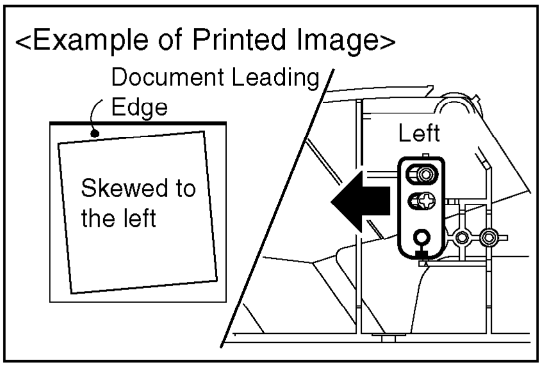
(1) Copy an Original using the ADF.
(2) Open the ADF Cover and release the Stopper.
(3) Remove the ADF Front Cover.

Note:
Release the 2 Latch Hooks from back by opening the ADF.

(4) Remove 1 Screw and turn the Adjusting Bracket counter-clockwise.


<Example of Printed Image>
Document Leading Edge
Skewed to the right
Right

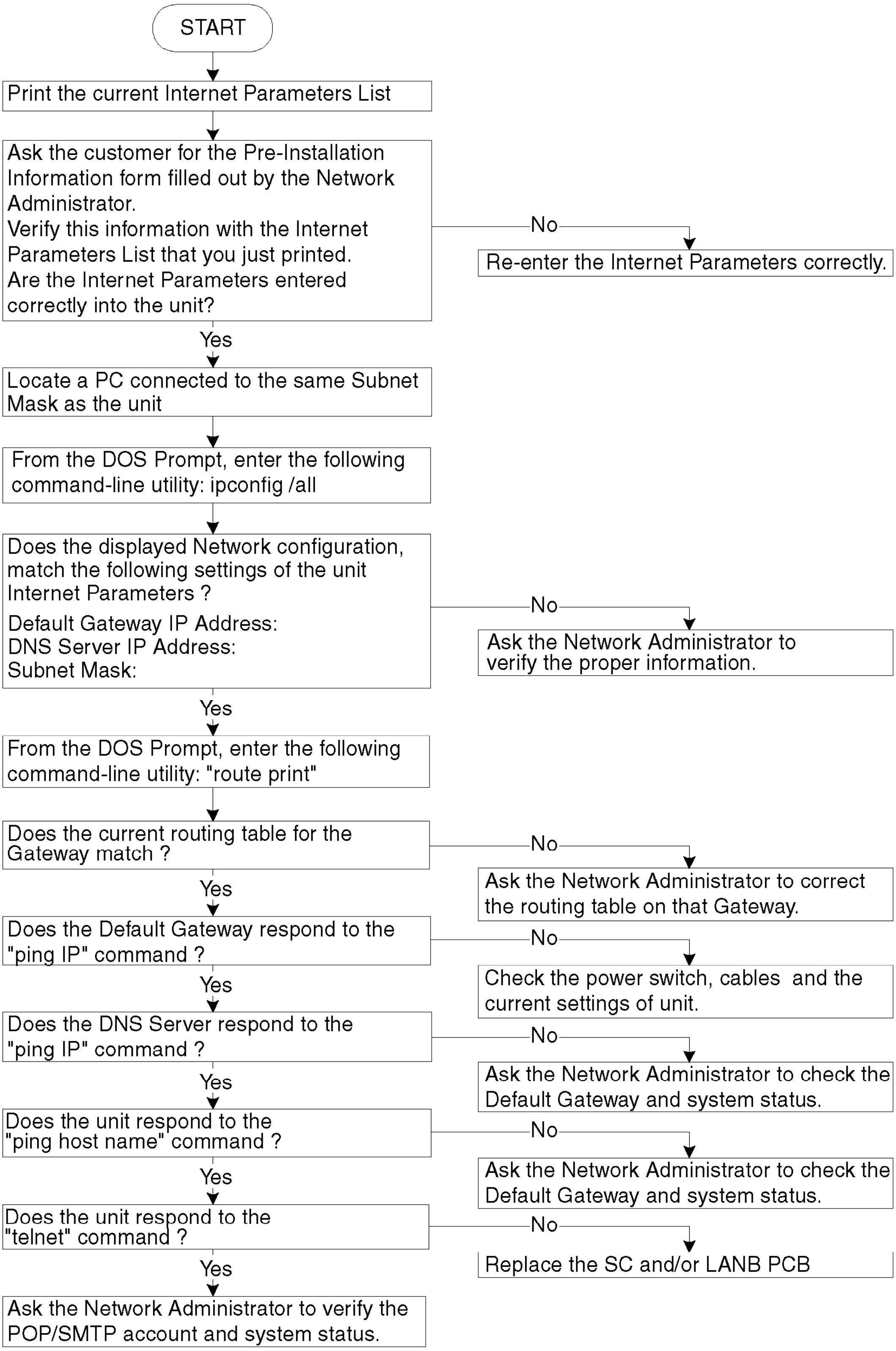
(A) If the Document is Skewed to the right, set the Adjusting Bracket to the right and secure with 1 Screw.


<Example of Printed Image>
Document Leading Edge
Skewed to the left
Left

(B) If the Document is Skewed to the left, set the Adjusting Bracket to the left and secure with 1 Screw.

4.5. Troubleshooting the LAN Interface

4.5.1. Checking Network Configuration



Print the current Internet Parameters List

Ask the customer for the Pre-Installation Information form filled out by the Network Administrator.
Verify this information with the Internet Parameters List that you just printed.
Are the Internet Parameters entered correctly into the unit?

Re-enter the Internet Parameters correctly.

Locate a PC connected to the same Subnet Mask as the unit

From the DOS Prompt, enter the following command-line utility: ipconfig /all

Does the displayed Network configuration, match the following settings of the unit Internet Parameters ?
Default Gateway IP Address:
DNS Server IP Address:
Subnet Mask:

Ask the Network Administrator to verify the proper information.

From the DOS Prompt, enter the following command-line utility: "route print"

Does the current routing table for the Gateway match ?

Ask the Network Administrator to correct the routing table on that Gateway.

Does the Default Gateway respond to the "ping IP" command ?

Check the power switch, cables and the current settings of unit.

Does the DNS Server respond to the "ping IP" command ?

Ask the Network Administrator to check the Default Gateway and system status.

Does the unit respond to the "ping host name" command ?

Ask the Network Administrator to check the Default Gateway and system status.

Does the unit respond to the "telnet" command ?

Replace the SC and/or LANB PCB

Ask the Network Administrator to verify the POP/SMTP account and system status.

4.5.2. Testing the TCP/IP Network

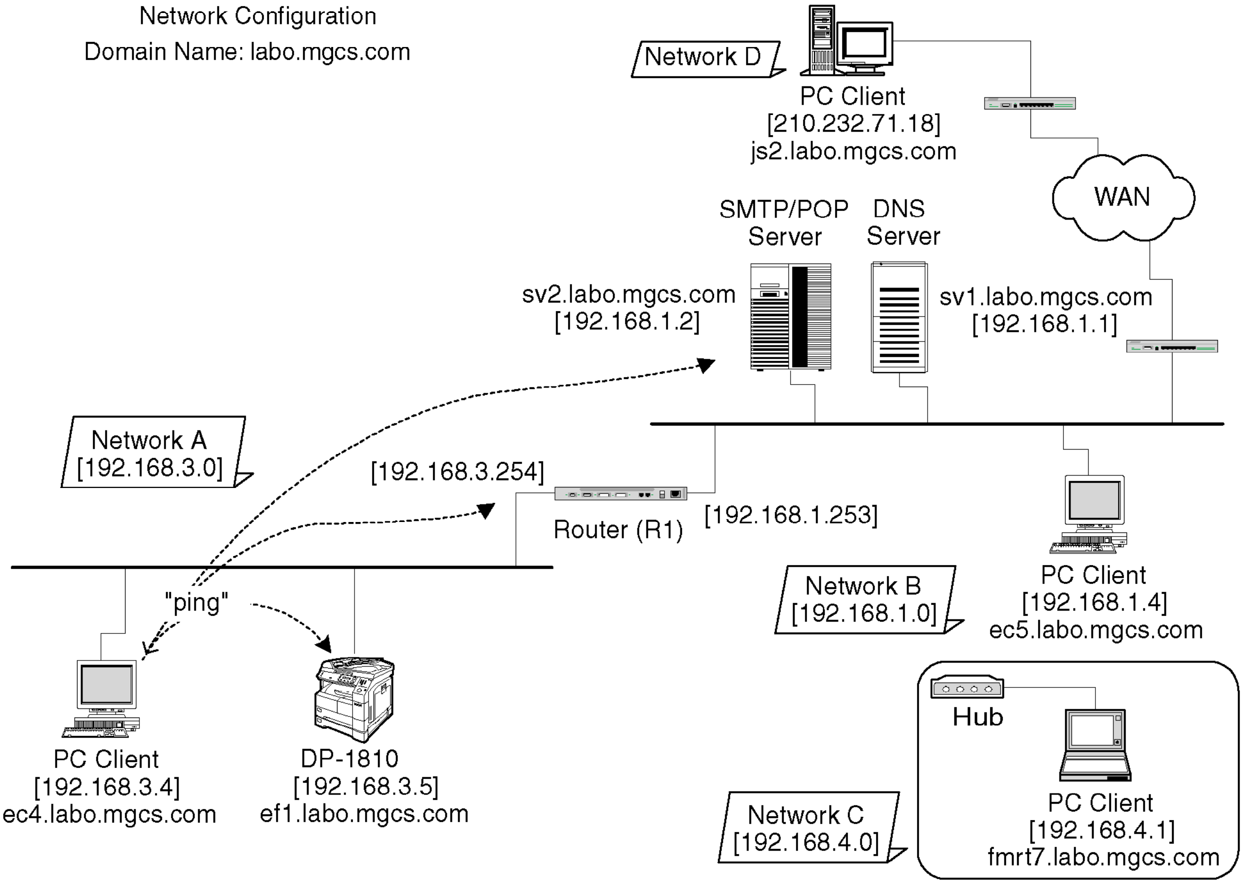
It is beyond the scope of this Service Manual to cover Networking in detail, there are many excellent manuals on this subject, but we hope the information in this section will aid with your troubleshooting efforts. In most cases, the Network Administrator will be able to provide you with needed information or assistance.

When encountering Network problems during an onsite service call or during the installation stage, try to isolate the steps that are not being completed so that you can quickly locate the components that don't work. It is best to organize your troubleshooting efforts by understanding what should be happening, then you can trace the path and see where the problem is occurring.

In our case, we use TCP/IP for transportation of data from one system to another, which involves a whole series of events occurring throughout a number of different layers.
As with all networking, TCP/IP works better when its plugged in, therefore, start your troubleshooting by checking the Physical Connectivity first, the cable(s).

In our examples, we'll use several simple tools readily available in the DOS command-line utility for troubleshooting. There are many other utilities available for checking more detailed information, some are Free of charge, others are available for a nominal fee.

1. **System Diagram Model**
   Ask the customer to provide you with the Pre-Installation Information form, that was filled out by the Network Administrator.
   A description or system diagram for the unit, including its physical address, email server and DNS server is required.


Network Configuration
Domain Name: labo.mgcs.com
Network D
PC Client
[210.232.71.18]
js2.labo.mgcs.com
WAN
SMTP/POP Server
DNS Server
sv2.labo.mgcs.com
[192.168.1.2]
sv1.labo.mgcs.com
[192.168.1.1]
Network A
[192.168.3.0]
[192.168.3.254]
Router (R1)
[192.168.1.253]
PC Client
[192.168.1.4]
ec5.labo.mgcs.com
Network B
[192.168.1.0]
"ping"
Hub
PC Client
[192.168.3.4]
ec4.labo.mgcs.com
DP-1810
[192.168.3.5]
ef1.labo.mgcs.com
Network C
[192.168.4.0]
PC Client
[192.168.4.1]
fmrt7.labo.mgcs.com

2. Checking Current Configuration

Print the current unit Internet Parameters configuration.
Locate a PC connected to the same Subnet Mask as the unit, then from the DOS Prompt, type the following command-line utility: **"ipconfig /all"** for Windows 98/Me/XP/2000/NT.

Verify that the displayed Network configuration on the PC, matches the following Internet Parameter settings of the unit:

Default Router IP Address: (PC: Default Gateway Address:)
DNS Server IP Address:
Subnet Mask: (whether it is valid)

For Windows 98 / Me / XP / 2000 / NT

The following example shows the output after you type "ipconfig /all" at a command prompt:

```
C:\>ipconfig /all
Windows NT IP Configuration
      Host Name - - - - - - - - - - - - - - - - - - - - : ec4.labo.mgcs.com
      DNS Servers - - - - - - - - - - - - - - - - - - - : 192.168.1.1
      Node Type - - - - - - - - - - - - - - - - - - - - - : Hybrid
      NetBIOS Scope ID - - - - - - - - - - - - - - :
      IP Routing Enabled. - - - - - - - - - - - -  : No
      WINS Proxy Enabled - - - - - - - - - - - - : No
      NetBIOS Resolution Uses DNS - - - : No

      Ethernet adapter IBMFE1 - - - - - - - - :
      Description - - - - - - - - - - - - - - - - - - - -  : IBM 100/10 EtherJet PCI Adapter

      Physical Address - - - - - - - - - - - - - - - : 00-04-AC-EE-9C-E8
      DHCP Enabled - - - - - - - - - - - - - - - - - : No
      IP Address - - - - - - - - - - - - - - - - - - - -  : 192.168.3.4
      Subnet Mask - - - - - - - - - - - - - - - - - - - : 255.255.255.0
      Default Gateway - - - - - - - - - - - - - - - - : 192.168.3.254
      Primary WINS Server - - - - - - - - - - -  : 192.168.3.18
```

From the above examples, you know the Network configuration for the specified Subnet Mask is as follows: IP Address: 192.168.3.4; Subnet Mask: 255.255.255.0; Default Gateway (Default Router IP Address): 192.168.3.254; DNS Server: 192.168.1.1 and the Domain Name: labo.mgcs.com
(obtained from the Host Name).

3. Using "PING" to Test Physical Connectivity

The Packet Internet Groper (PING) is a command-line tool included with every Microsoft TCP/IP client (any DOS or Windows client with the TCP/IP protocol installed). PING is a simple utility that is used to send a test packet to a specified IP Address or Hostname, then, if everything is working properly, the packet is echoed back (returned).

Sample command-line PINGing and parameters are shown below. There are several available options that can be specified with the PING command. However, for our examples, we will use two options (-n and -w) which are commonly used when the response from the destination location is too long.

-n *count*	:	The number of echo requests that the command should send. The default is four.
-w *timeout*	:	Specifies the period PING will wait for the reply before deciding that the host is not responding.

PINGing the Unit

```
C:\WINDOWS>ping ef1.labo.mgcs.com

Pinging ef1.labo.mgcs.com [192.168.3.5] with 32 bytes of data:

Reply from 192.168.3.5: bytes=32 time=5ms TTL=253
Reply from 192.168.3.5: bytes=32 time=4ms TTL=253
Reply from 192.168.3.5: bytes=32 time=4ms TTL=253
Reply from 192.168.3.5: bytes=32 time=4ms TTL=253
```

PINGing the Default Gateway (Default Router IP Address)

```
C:\WINDOWS>ping 192.168.3.254

Pinging 192.168.3.254 with 32 bytes of data:

Reply from 192.168.3.254: bytes=32 time=5ms TTL=253
Reply from 192.168.3.254: bytes=32 time=4ms TTL=253
Reply from 192.168.3.254: bytes=32 time=4ms TTL=253
Reply from 192.168.3.254: bytes=32 time=4ms TTL=253
```

PINGing the SMTP/POP Server

```
C:\WINDOWS>ping sv2.labo.mgcs.com

Pinging sv2.labo.mgcs.com [192.168.1.2] with 32 bytes of data:

Reply from 192.168.1.2: bytes=32 time=5ms TTL=253
Reply from 192.168.1.2: bytes=32 time=5ms TTL=253
Reply from 192.168.1.2: bytes=32 time=5ms TTL=253
Reply from 192.168.1.2: bytes=32 time=5ms TTL=253
```

If for some reason, the physical connection is missing, the echo reply will not be received from the destination and the following output is displayed:

```
C:\WINDOWS>ping fmrt7.labo.mgcs.com

Pinging fmrt7.labo.mgcs.com [192.168.4.1] with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 192.168.4.1:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum =  0ms, Average =  0ms
```

If the physical destination is far and it's connected by WAN (Wide Area Network), the PING option command default value must be changed to compensate for the expected delayed response.
e.g.

-n 10 : The number of echo requests that the command should send.
-w 2000 : Specifies the period PING will wait for the reply before deciding that the host is not responding.

```
C:\WINDOWS>ping js2.labo.mgcs.com -n 10 -w 2000

Pinging js2.labo.mgcs.com [210.232.71.18] with 32 bytes of data:

Reply from 210.232.71.18: bytes=32 time=633ms TTL=252
Reply from 210.232.71.18: bytes=32 time=645ms TTL=252
Reply from 210.232.71.18: bytes=32 time=810ms TTL=252
Reply from 210.232.71.18: bytes=32 time=455ms TTL=252
Reply from 210.232.71.18: bytes=32 time=645ms TTL=252
Reply from 210.232.71.18: bytes=32 time=633ms TTL=252
Reply from 210.232.71.18: bytes=32 time=677ms TTL=252
Reply from 210.232.71.18: bytes=32 time=703ms TTL=252
Reply from 210.232.71.18: bytes=32 time=633ms TTL=252
Reply from 210.232.71.18: bytes=32 time=633ms TTL=252
```

4. Tracing a Packet Route

Another useful command-line utility is TRACERT, which is used to verify the route a packet takes to reach its destination. The result shows each router crossed and how long it took to get through each particular router to reach the specified destination.

The time it takes to get through a particular router is calculated three times and displayed for each router hop along with the IP Address of each router crossed. If a FQDN (Fully Qualified Domain Name) is available, it will be displayed as well.

This utility is useful for two diagnostic purposes:

a. To detect whether a particular router is malfunctioning along a known path. For example, if you know that packets on a network always go through London to get from New York to Berlin, but the communication is failing. A TRACERT to the Berlin address shows all the hops up to the point where the router in London should respond. If it does not respond, the time values are shown with an asterisk (*), indicating the packet timed out.
b. To determine whether a router is slow and needs to be upgraded or additional routers should be installed on the network. You can determine this by simply comparing the time it takes for a packet to get through a particular router. If its return time is significantly higher than the other routers, it should be upgraded.

To use this utility, from the DOS command-line, type: tracert <IP Address or Hostname>

Tracing the Route to SMTP/POP Server

```
C:\WINDOWS>tracert sv2.labo.mgcs.com
Tracing route to sv2.labo.mgcs.com [192.168.1.2]
over a maximum of 30 hops:

  1    4 ms    2 ms    2 ms  192.168.3.254
  2    4 ms    5 ms    5 ms  sv2.labo.mgcs.com [192.168.1.2]

Trace complete.
```

5. Managing Network Route Tables

In the simplest case a router connects two network segments. In this model, the system used to join the two segments needs to know only about these segments.

The routing table for router R1 in this case is simple; the following table shows its key routes:

Network Address	Netmask	Gateway	Interface
192.168.3.0	255.255.255.0	192.168.3.254	192.168.3.254
192.168.1.0	255.255.255.0	192.168.1.253	192.168.1.253

When the Unit at 192.168.3.5 attempts to communicate with the Unit at 192.168.1.x, IP performs the ANDing process to find two things: The local network ID is 192.168.3.0, and the destination network ID is not. This means, that the destination host is not on the local network.

IP, is responsible to find a route to the remote network, and therefore, it consults the routing table. Here, the local host normally determines that the next step in the route is the Default Gateway, and sends the packet to router R1.

The router R1, receives the packet. After determining that the packet is for another host and not the router itself, it checks the routing table. It finds the route to 192.168.1.0 and sends the packet through the interface to the Unit at 192.168.1.x, which receives the packet. This is a simple route that took only a single hop.

When another network is added as the number of hosts grows, it gets complicated, and the systems on the most distant networks cannot communicate. When the router receives a packet in this case, it cannot find a route to the remote network. It then discards the packet and a message indicating "destination host unreachable" is sent to the originator.

Here, is where the ROUTE command-line utility is useful when dealing with more than two networks, and is used by Administrators to statically manage a route table by adding, deleting, changing and clearing the route table. It has a number of options that are used to manipulate the routing tables, some are shown below:

- MASK
  If this switch is present, the next parameter is interpreted as the netmask parameter.
- Netmask
  If included, specifies a sub-net mask value to be associated with this route entry. If not specified, it defaults to 255.255.255.255.
- Gateway
  Specifies the gateway.
- METRIC
  Specifies the metric / cost for the destination.

All symbolic names used for the destination are looked up in the network database file NETWORKS. The symbolic names for the gateway are looked up the host name database file HOSTS.

When the packet does not reach the specified destination even when the physical connection is properly made, check the registered persistent routes on the same subnet as the Unit by typing "route print" in the DOS command-line. The output display is shown below:

```
C:\WINDOWS>route print
Active Routes:

  Network Address      Netmask            Gateway Address      Interface        Metric
  0.0.0.0              0.0.0.0            192.168.3.254        192.168.3.2      1
 127.0.0.0             255.0.0.0          127.0.0.1            127.0.0.1        1
 192.168.3.0           255.255.255.0      192.168.3.2          192.168.3.2      1
 192.168.3.2           255.255.255.255    127.0.0.1            127.0.0.1        1
 192.168.3.255         255.255.255.255    192.168.3.2          192.168.3.2      1
 224.0.0.0             224.0.0.0          192.168.3.2          192.168.3.2      1
 255.255.255.255       255.255.255.255    192.168.3.2          192.168.3.2      1
```

6. **Host Name Query on DNS Server**

Windows NT/2000/XP also has a tool that enables you to test DNS to verify that it is working properly. This utility is not available on Windows 98/Me so you may take equivalent network tools from available Internet download site with many options.

From the DOS command-line, type "NSLOOKUP" to display the following output:

```
C:\>nslookup
Default Server:  sv1.labo.mgcs.com
Address:  192.168.1.1
```

NS(Name Server) record in Domain

From the DOS command-line, type "ls -t NS <Domain Name>" to display the following output:

```
> ls -t NS labo.mgcs.com.
[sv1.labo.mgcs.com.]
 labo.mgcs.com.          NS   server = sv1.labo.mgcs.com
```

MX(Mail Exchange) record in Domain

From the DOS command-line, type "ls -t MX <Domain Name>" to display the following output:

```
> ls -t MX labo.mgcs.com
[sv1.labo.mgcs.com]
 labo.mgcs.com.            MX    10   sv2.labo.mgcs.com
```

A (Address) record in Domain

From the DOS command-line, type "ls -t A <Domain Name>" to display the following output:

```
> ls -t A labo.mgcs.com
[sv1.labo.mgcs.com]
 labo.mgcs.com.      NS   server = sv1.labo.mgcs.com
 sv1                 A     192.168.1.1
 sv2                 A     192.168.1.2
 ec5                 A     192.168.1.4
 ec4                 A     192.168.3.4
 ef1                 A     192.168.3.5
```

(To leave from this menu, type "exit" on the command-line.)

7. **Testing Unit Using the TELNET Command**

TELNET is a terminal emulation protocol. TELNET enables PCs and workstations to function as dumb terminals in sessions with hosts on internet works.
From Windows 98/XP/Me/2000/NT, use the TELNET to test the communication of TCP/IP and SMTP Protocol manually to the Unit. This method eliminates the SMTP Server.

For better understanding, type "telnet" in the DOS Command-line to bring up the Telnet screen. Then, click on the Terminal menu and on Preferences, check the "Local Echo" and "Block Cursor" radio dials and click on the OK button.
Click on the Connect menu, then click on Remote System.
Enter "25" in the "Port:" field and click on Connect button.
For example,

```
C:\WINDOWS>telnet


telnet to ef1.labo.mgcs.com[192.168.3.5]

220 ef1.labo.mgcs.com DP18xx V.xx

helo
250 Hello

mail from:test
250 Sender OK

rcpt to:fax@labo.mgcs.com
250 Receipient OK

data
354 Email, end with "CRLF . CR LF"


[Press the Enter Key]
Panasonic Internet Fax
test
test
[Press the Enter Key]
[Press the Enter Key]
[Press the Enter Key]
250 OK, Mail accept

quit
221 Closing transaction channel
```

4.6. Error Codes (For Copier)

The self-diagnostic functions detect troubles in the important components of the copier. When any trouble occurs, the copier stops.

Note:
Some Codes may not be used for DP-1510P/1810P, which are reserved for future use.

4.6.1. User Error Codes (U Code)

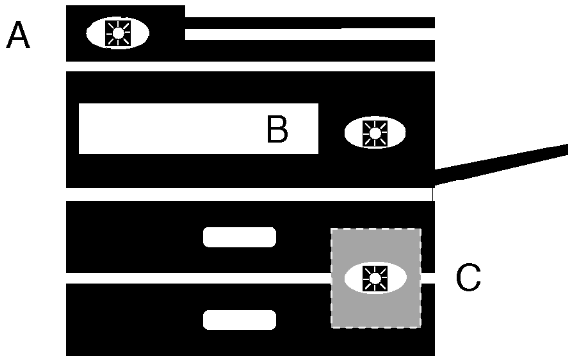
Note:
Uxx and a message will appear on the Panel Display.

User Error Codes (U Code) Table

Code	Item	Check Points
U01	CLOSE FRONT/RIGHT COVER	1. Front/Right Cover is open. 2. Front Cover Sensor is disconnected. 3. Front Cover Sensor is defective. 4. LVPS connector is disconnected. 5. LVPS is defective. 6. LPC3 PCB connector is disconnected. 7. LPC3 PCB is defective.
U07	CLOSE FEED COVER	1. Feed Cover is open. 2. Feeder Unit is incorrectly installed. 3. Feeder Unit connector is disconnected. 4. Feeder Unit Sensor is disconnected. 5. Feeder Unit Sensor is defective. 6. LVPS connector is disconnected. 7. LVPS is defective. 8. CST4 PCB connector are disconnected. 9. CST4 PCB is defective.
U13	ADD TONER NO TONER WASTE CONTAINER	1. Toner Bottle is incorrectly installed. 2. Low Toner. 3. Toner Sensor is disconnected. 4. Toner Sensor is defective. 5. LVPS connector is disconnected. 6. LVPS is defective. 7. LPC3 PCB connector is disconnected. 8. LPC3 PCB is defective.
U14	TONER WASTE CONTAINER IS FULL	1. Toner Waste Container is incorrectly installed. 2. Toner Waste Container is full of toner. 3. Toner Waste Container Sensor connector is disconnected. 4. Toner Waste Container Sensor is defective. 5. LVPS connector is disconnected. 6. LVPS is defective. 7. LPC3 PCB connector is disconnected. 8. LPC3 PCB is defective. 9. SC PCB is defective.
U16	NO TONER WASTE CONTAINER	1. No Developer Unit. 2. No Toner Waste Container.

User Error Codes (U Code) Table		
Code	**Item**	**Check Points**
U20	CLOSE ADF COVER	1. ADF Cover is open. 2. ADF is not installed correctly. 3. ADF Cover Sensor is disconnected. 4. ADF Cover Sensor is defective. 5. LVPS connector is disconnected. 6. LVPS is defective.
U21	CLOSE PLATEN COVER	While the copier is initializing, the ADF Cover was opened. (Optional ADF installed)
U90	REPLACE BATTERY	Backup Battery is wearing out.

4.6.2. Jam Error Codes (J Code)



Section	Jam Location
A	ADF
B	Paper Transport / Exit Area
C	Paper Entry Area

Jam Error Codes (J Codes) Table		
Code	**Contents**	**Section**
J00	The Registration Sensor did not detect paper within a predetermined time after paper started feeding. (Sheet Bypass)	C
J01	The Registration Sensor did not detect paper within a predetermined time after the Paper Feed Roller started rotating. (1st Feeder Unit)	C
J02	The 2nd Registration Sensor does not detect paper within a predetermined time after the Paper Feed Roller started rotating. (2nd Feeder Unit)	C
J03	The 3rd Registration Sensor does not detect paper within a predetermined time after the Paper Feed Roller started rotating. (3rd Feeder Unit)	C
J04	The 4th Registration Sensor does not detect paper within a predetermined time after the Paper Feed Roller started rotating. (4th Feeder Unit)	C
J07	The Registration Sensor did not detect paper within a predetermined time after paper feed from 2nd Feeder Unit. (2/3/4 Feeder Unit)	C
J08	The Registration Sensor did not detect paper within a predetermined time after the Paper Feed Roller started rotating on the 3rd Feeder Unit. (3/4 Feeder Unit)	C
J09	The Registration Sensor did not detect paper within a predetermined time after the Paper Feed Roller started rotating on the 4th Feeder Unit. (4th Feeder Unit)	C
J12	The 2nd Registration Sensor did not detect paper within a predetermined time after the Paper Feed Roller started rotating.	C
J13	The 3rd Registration Sensor did not detect paper within a predetermined time after the Paper Feed Roller started rotating.	C
J14	The 4th Registration Sensor did not detect paper within a predetermined time after the Paper Feed Roller started rotating.	C
J22	The 2nd Registration Sensor detect paper at the time of the initials.	C
J23	The 3rd Registration Sensor detect paper at the time of the initials.	C
J24	The 4th Registration Sensor detect paper at the time of the initials.	C
J30	The Registration Sensor did not detect no paper within a predetermined time.	C
J33	The Registration Sensor detect paper at the time of the initials.	C
J34	The Registration Sensor did not detect paper within a predetermined time after Sensor 4 of Automatic Duplex Unit is ON. (DP-2010E Only)	C

Jam Error Codes (J Codes) Table		
Code	**Contents**	**Section**
J40	The eject paper Sensor does not detect paper within a predetermined time after Registration Sensor is ON.	C
J41	The eject paper Sensor does not detect no paper within a predetermined time after eject paper Sensor is ON.	C
J42	The Paper Exit Sensor detects paper when machine is standby.	C
J70	Read Point Sensor does not go ON within 10 seconds after the original starts feeding. (Information Code 030 is printed on the Transaction Journal instead.)	A
J71	Original was longer than 78.7 in (2m). (Information Code 031 or 032 is printed on the Transaction Journal instead.)	A
J80	The Automatic Duplex Unit Sensor 1 does not detect paper within a predetermined time. (DP-2010E Only)	B
J81	The Automatic Duplex Unit Sensor 2 does not detect paper within a predetermined time after Automatic Duplex Unit Sensor 1 is ON. (DP-2010E Only)	C
J82	The Automatic Duplex Unit Sensor 3 does not detect paper within a predetermined time after Automatic Duplex Unit Sensor 2 is ON. (DP-2010E Only)	C
J83	The Automatic Duplex Unit Sensor 4 does not detect paper within a predetermined time after Automatic Duplex Unit Sensor 3 is ON. (DP-2010E Only)	C
J84	The Automatic Duplex Unit Sensor 1 detects no paper within a predetermined time after Automatic Duplex Unit Sensor 1 is ON. (DP-2010E Only)	C
J85	The Automatic Duplex Unit Sensor 2 detects no paper within a predetermined time after Automatic Duplex Unit Sensor 2 is ON. (DP-2010E Only)	C
J86	The Automatic Duplex Unit Sensor 3 detects no paper within a predetermined time after Automatic Duplex Unit Sensor 3 is ON. (DP-2010E Only)	C
J87	The Automatic Duplex Unit Sensor 4 detects no paper within a predetermined time after Automatic Duplex Unit Sensor 4 is ON. (DP-2010E Only)	C
J88	The Automatic Duplex Unit Sensor 1 detects paper when machine is standby. (DP-2010E Only)	C
J89	The Automatic Duplex Unit Sensor 2, 3 or 4 detects paper when machine is standby. (DP-2010E Only)	C
J90	A PRINT signal is not received within 1 minute after the FEED signal is received.	-
J91	A Paper Tray is pulled out when feeding a paper.	-
J92	A Front Door Cover is opened when feeding a paper.	-

4.6.3. Mechanical Error Codes (E Code)

E1: Optical Unit Error		
Code	**Function**	**Check Points**
E1- 20	Laser Unit Horizontal Synchronization	1. LPC3 PCB connector(s) is disconnected. 2. LPC3 PCB is defective. 3. LSU is defective. 4. LVPS connector is disconnected. 5. LVPS is defective. 6. LPC3/SC PCB connector is disconnected. 7. SC/LPC3 PCB is defective.
E1- 22	Polygon Motor Synchronization	1. LPC3 PCB connector is disconnected. 2. LPC3 PCB is defective. 3. Laser Unit is defective. 4. LVPS connectors is disconnected. 5. LVPS is defective. 6. LPC3/SC PCB connector is disconnected. 7. SC PCB is defective.

E2: Lift DC Motor Error		
Code	**Function**	**Check Points**
E2	Not Applicable	-

E3: Development System Error		
Code	**Function**	**Check Points**
E3- 01	Toner Bottle Motor Rotation	1. Toner Bottle Motor connector is disconnected. 2. Toner Bottle Motor drive mechanism is defective. 3. Toner Bottle Motor is defective. 4. Toner Bottle Motor Home Position Sensor connector is disconnected. 5. LVPS connector is disconnected. 6. LVPS is defective. 7. LPC3 PCB connector(s) is disconnected. 8. LPC3 PCB is defective.
E3- 20	Printer Motor (DC Motor) Rotation	1. Printer motor connector is disconnected. 2. Printer motor is defected. 3. LVPS connector is disconnected. 4. LVPS is defective. 5. LPC3 PCB connector is disconnected. 6. LPC3 PCB is defective.

E4: Fuser Unit Error		
Code	**Function**	**Check Points**
E4- 01	Fuser Warm-up Temperature	1. Fuser Thermistor is dirty. 2. Thermistor position is incorrect. 3. Fuser temperature is low. (Adjust F6-31) 4. Thermistor is defective. 5. Fuser Lamp connector is disconnected. 6. Fuser Thermostat is defective. 7. Fuser Lamp is defective. 8. HTC PCB connector is disconnected. 9. HTC PCB is defective.
E4- 02	Paper Jam	1. Paper Jam in Fuser Unit.
E4- 10	Exhaust Fan Motor Rotation (Fuser Unit Side)	1. Exhaust Fan connector is disconnected. 2. Exhaust Fan is defective. 3. LVPS connector is disconnected. 4. LVPS is defective. 5. LPC3 PCB is defective.

E5: System Error		
Code	**Function**	**Check Points**
E5- 11	Thermistor, Toner Sensor	1. SC/LPC3 PCB connector is disconnected. 2. SC/LPC3 PCB is defective.
E5- 12	Main CPU/LPC Interface Error	1. SC/LPC3 PCB connector is disconnected. 2. SC/LPC3 PCB is defective.
E5- 13	LPC System Error	1. SC/LPC3 PCB connector is disconnected. 2. SC/LPC3 PCB is defective.
E5- 14	Option Installation Error	1. SC/LPC3 PCB connector is disconnected. 2. SC/LPC3 PCB is defective.
E5- 15	Mechanical Total Counter Not Installed	1. SC/LPC3 PCB connector is disconnected. 2. SC/LPC3 PCB is defective.
E5- 22	Finisher Communication	1. SC/LPC3 PCB connector is disconnected. 2. SC/LPC3 PCB is defective.

E7: Optional Unit Error		
Code	**Function**	**Check Points**
E7- 10	Sub CPU System Error	SC PCB is defective.
E7- 11	Abnormal Platen Glass Scanning	SC PCB is defective.
E7- 12	Scanner Lamp is disconnected	SC PCB is defective.

Note:
These error codes will appear only when the optional accessories are installed. Refer to Optional Unit Service Manuals.

4.7. Information Codes Table (For Facsimile)

Fax Information Codes				
Code	**Mode**	**Phase**	**Description of Problem**	**Cause**
012	RCV	C, D	The length of the received document is over 2 m.	
030	XMT	B	Read Point Sensor does not go to ON within 10 seconds after the document starts feeding.	Document is not set properly. Defective Read Point Sensor.
031	XMT COPY	C	Transmitting document was longer than 2,000 mm (or 78.7 in).	The document may jam. Defective Read Point Sensor.
061	-	A	ADF Door is open.	Cover is not firmly closed. Connectors are not firmly connected.
200	RCV	C	Decoding process is not completed at the end of phase C.	Defective SC PCB.
212	XMT RCV	A-E	Interface error occurred between the CPU and modem.	Modem is defective. (SC PCB) Software problem occurred. (SC PCB)
301	XMT RCV		System fault.	Software problem occurred. (SC PCB)
331	XMT	C	8-minutes timer error. (Germany only)	
360	-	-	Incomplete initialization for EP PCB.	EP PC Board incorrectly installed on the SC PC Board. FRM PC Board incorrectly installed on the EP PC Board. Defective EP PC Board. Defective FRM PC Board. Defective SC PC Board.
361	-	-	DPRAM (Dual Port RAM) initialization error on EP PCB.	EP PC Board incorrectly installed on the SC PC Board. FRM PC Board incorrectly installed on the EP PC Board. Flash ROM on the FRM PC Board is blank. Defective EP PC Board. Defective FRM PC Board. Defective SC PC Board.
362	-	-	Command Sequence Error.	Software problem occurred. (SC/FRM PCB)
400	XMT	B	T1 timer (35±5 sec) elapsed without detecting 300 bps signal.	Wrong number is dialed and the START button is pushed. Telephone line is disconnected while dialing. SC PCB (Modem) or MJR PCB is defective. Receiver is defective. (It may only be transmitting CED)
401	XMT	B	DCN was returned from receiver while transmitter is waiting for CFR or FTT.	Your machine's ID Number is not programmed. Possible incompatibility or incorrect Password (Password Reception, Selective Receive). Mailbox is full.

Fax Information Codes				
Code	**Mode**	**Phase**	**Description of Problem**	**Cause**
402	XMT	B	DCN was returned from receiver while transmitter is waiting for NSF/DIS.	Receiver working in non-CCITT mode only. (Possible incompatibility)
403	RCV (Polling)	B	Transmitter had no polling function.	"POLLED=ON" (polling XMT ready) is not set at the transmitter. Document to be transmitted is not placed at the transmitter.
404	XMT	B	Transmitter sent NSS (or DCS) followed by TCF three times, but the receiver did not respond. (CFR or FTT is usually returned)	Receiver is defective. (Modem, MJR PCB, etc.) SC PCB or MJR PCB is defective. Receiver disconnects line during first NSS (or DCS) is transmitted.
405	XMT	B	Transmitter received FTT after it transmitted TCF at 2400 bps. Received RTN after communicating at 2400 bps.	Line quality is poor. (TCF is damaged due to line noise) Receiver is defective. (Modem, MJR PCB, etc.) SC PCB or MJR PCB is defective.
406	RCV (Password Comm.)	B	XMT-Password mismatched. RCV-Password mismatched. Selective RCV incomplete.	XMT, RCV password does not match. Last 4 digits of TSI does not match with the last 4 digits of Auto Dial telephone number.
407	XMT	D	Transmitter received no response after it transmitted post message, such as EOP, MPS, EOM, etc...or received DCN.	Receiver is defective. (No paper, paper jamming, etc.) Receiver ceased receiving because of excessive error. (Line quality is poor) SC PCB (Modem) or MJR PCB is defective.
408	XMT	D	Transmitter received RTN after it transmitted EOP, MPS, or EOM.	Receiver receives data with error. (Line quality is poor) Receiver is defective. (Modem, MJR PCB, etc.) SC PCB or MJR PCB is defective.
409	XMT	D	Transmitter receives PIN after it transmitted a post message, such as EOP, MPS, EOM, etc.	Receiver receives data with error due to poor line quality, and receiving operator requests voice contact. Receiver is defective. (Modem, MJR PCB, etc.) SC PCB or MJR PCB is defective.
410	RCV	D	Received DCN while waiting for post command. (EOP, MPS, EOM, etc.)	Interface or line is faulty. Transmitter is defective.
411	RCV (Polling)	B	Received DCN after transmitting NSC.	Transmitter is not ready for polling communication. Password does not match between transmitter and receiver.
412	G3 RX	B, D	No response within 12 seconds in NSS/DCS/MPS wait state. (After transmitting FTT)	Transmitter is defective. SC PCB is defective.
414	RCV (Polling)	B	No response received after transmitting 3rd NSC.	Password does not match between transmitter and receiver. Transmitter is defective. (No original, document jam, etc.)

Fax Information Codes				
Code	**Mode**	**Phase**	**Description of Problem**	**Cause**
415	XMT (Polling)	B	Remote side attempted to receive message from your machine in polling communication.	Inform the remote side that your machine does not have the polling transmission feature.
416	RCV	D	Receiver did not detect post command, such as EOP, MPS, EOM, etc.	Transmitter is defective. Line quality is poor. (RTC signal is distorted due to line noise) SC PCB or MJR PCB is defective.
417	RCV	C	Receiver returned RTN in response to post message.	Line quality is poor. (There are excessive errors in received data) SC PCB or MJR PCB is defective.
418	RCV	C	Receiver transmitted PIN in response to PRI-Q from transmitter. (Transmitting operator requests voice contact)	Line quality is poor. (There are excessive errors in received data) SC PCB or MJR PCB is defective.
420	RCV	B	T1 timer (35 sec.) elapsed without detecting 300 bps signal.	There is wrong incoming call. (Non-facsimile communication) Transmitter is defective. SC PCB or MJR PCB is defective.
421	RCV	B	Busy Tone is detected after sending NSF Signal.	Remote station disconnected the line. Wrong number is dialed.
422	XMT	B	Content of NSF (or DIS) or NSC (or DTC) was invalid.	There is an incompatibility.
427	G3 RCV	B	DCN received to NSF/CSI/DIS transmitted.	The interface is incompatible.
433	XMT RCV	B, D	T.30 Protocol abnormal.	Defective remote station.
434	XMT or RCV	B	CD (response from Modem) did not turn OFF within 180 sec. after receiver detected FLAG signal.	Remote unit is defective. SC PCB or MJR PCB is defective.
436	G3 RX	C	DCN received after transmitting FTT.	Transmitter is defective or incompatible. Line quality is poor.
456	RCV	B	Received relay transfer request or confidential document to distribute to an end receiving station or all confidential mailboxes are used.	
457	RELAY XMT CONF. XMT/ POLL	B	Remote unit does not have Relayed XMT or Confidential Comm. capability.	
459	RCV	C	Failed training in Phase C.	Line quality is poor. (Training signal is distorted due to line noise) SC PCB or MJR PCB is defective.
490	RCV	C	Sum of error lines exceeded the limit (Function Parameter No. 70) of 64 lines.	Line quality is poor. SC PCB or MJR PCB is defective.
494	RCV	C	Interval between two EOLs was more than 10 sec. when receiver received message data.	Transmitter is defective. Line quality is poor. (EOL is damaged due to line noise) SC PCB or MJR PCB is defective.

Fax Information Codes				
Code	**Mode**	**Phase**	**Description of Problem**	**Cause**
495	XMT RCV	C	During reception, CD turned OFF or continued ON for long time. During communication, lost loop - current.	Line is disconnected. Transmitter is defective. SC PCB or MJR PCB is defective.
496	XMT	C	CS of modem is not able to turn ON.	SC PCB is defective.
501	XMT/ RCV(V.34)	B	Remote unit does not have compatible Modem.	
502	XMT/ RCV(V.34)	B, C, D	During reception, CD turned OFF or continued ON for long time. During communication, lost loop - current.	Line is disconnected. Transmitter is defective. SC PCB or MJR PCB is defective.
503	XMT/ RCV(V.34)	B, C, D	CS of modem is not able to turn ON during training.	SC PCB is defective. Line is disconnected.
504	RCV/V.34 (Polling)	B	Polling is rejected from the remote station.	No polling original is set.
505	XMT/V.34 (Polling)	B	Polling XMT is rejected.	No polling original is set.
540	XMT ECM	B	No response after transmitting 3rd CTC or DCN received.	Incompatible interface.
541	XMT ECM	D	No response after transmitting 3rd EOR or received DCN.	Line is faulty. MJR PCB abnormal.
542	XMT ECM	D	No response to the 3rd RR transmitted or received DCN.	Remote unit is abnormal.
543	XMT ECM	D	T5 timer (60 sec.) elapsed without MCF.	Remote unit is abnormal.
544	XMT ECM	D	Stopped Transmission after EOR Transmission.	Line is faulty. MJR PCB abnormal.
550	RCV ECM	C	Timer between frames in phase C has elapsed.	Defective remote station.
554	RCV ECM	D	Transmitted ERR after receiving EOR.	Faulty line.
555	RCV ECM	D	Transmitted PIN after receiving EOR.	Faulty line and Operator Call requested by RX side.
570	RCV	B	Password or machine code did not match during remote diagnostic communication.	
571	XMT	B	Remote unit did not have the remote diagnostic function.	
580	XMT	B	Sub-address transmission to a unit that has their DIS bit 49 (NSF bit 155) OFF.	Sub-address transmission to a unit that has no Sub-address function.
581	XMT	B	Sub-address Password transmission to a unit that has their DIS bit 50 (NSF bit 156) OFF.	Sub-address transmission to a unit that has no Sub-address function.
601	XMT		ADF Door was opened during ADF transmission.	
623	XMT	A	No original was in the ADF. (Built-in dialer engaged)	Operator removed the original from the ADF after dialing was completed. Original was not set properly in the ADF.

Fax Information Codes				
Code	**Mode**	**Phase**	**Description of Problem**	**Cause**
630	XMT or RCV (Polling)	B	Redial count over.	No dial tone detected. Sensor dial tone is not detected. (country dependent) Busy tone is detected. (country dependent) T1 timer (35±5 sec) elapsed without a signal from the receiver.
631	XMT	A	"STOP" button was pressed during Auto Dialing.	
634	XMT		Redial count over with no response or busy tone was not detected. **Note:** U.S.A. and Canadian models will redial only once if a busy tone is not detected.	
638	XMT		Power turned off with applicable data in memory or during communication.	Power switched off. Power failure occurred.
710	XMT RCV	LAN	Command Response between LANC/LANB PCB timed out.	Defective LANC/LANB PCB.
712	XMT	LAN	Unknown email address replied from the Mail Server.	Mail Server received an incorrect email address. (Dependent on Server's Mail application)
713	XMT	LAN	Memory overflow in the LAN Interface.	The document data exceeded 1.6 Mbyte/page and cannot be sent.
714	XMT RCV	LAN	LAN Interface error. Cannot logon to the LAN.	The 10Base-T/100Base-TX cable is not connected. An unexpected LAN problem occurred. Check the LANC/LANB PCB connector.
715	XMT	LAN	TCP/IP connection timed out.	Incorrect IP Address is set. Verify the IP Address, Default Router IP Address, SMTP Server IP Address.
716	XMT	LAN	Cannot logon to the LAN.	Incorrect SMTP Server IP Address is set. No email application is activated on the Mail Server.
717	XMT	LAN	Incomplete SMTP Protocol transmission.	Mail Server's hard disk may be full. Mail Server is defective.
718	XMT	LAN	Page Memory Overflow occurred while receiving printing data. The paper size selected within your application to print is larger than the paper size loaded in the cassette(s).	Check the document size and resolution. Ask originator to re-send in a supported size and resolution.
719	RCV	LAN	Received data via LAN is in a format that is not supported.	Ask the originator to re-send with a supported file attachment: * In a TIFF-F format. * Image data conforming to A4/Letter size.
720	POP	LAN	Unable to connect with the POP Server.	Incorrect POP Server address is set. POP Server is down.
721	POP	LAN	Unable to login to the POP Server.	Incorrect User Name or Password is set.

Fax Information Codes

Code	Mode	Phase	Description of Problem	Cause
725	XMT POP	LAN	DNS Server connection timed out.	Incorrect DNS Server address is set. DNS Server is down.
726	XMT POP	LAN	Received an error response from the DNS Server.	Incorrect POP Server address is set. Incorrect SMTP Server address is set.
730	RCV	LAN	Unable to program the Internet parameters or the autodialer with Email from a PC.	Verify that the Fax Parameter #158 is set to 2: Valid.
731	RCV	LAN	Dialer full while Relayed Transmission Request was received.	Dial buffer for manual number dialing (70 stations) are being used.
741	XMT, Polling		Unable to dial	Deleted the registered station name before dialing with Timer Controlled Communications, etc.
800	Relay Comm.		The machine was requested to relay a document but has no Relay Hub capability.	
814	Conf. XMT Conf. Polling Relay Comm.		The remote station does not have Relay XMT nor Confidential Communication capability.	
815	Conf. RCV		Mailbox is full.	
816	Conf. Polled		The received Polling Password did not match.	
825	Conf. RCV Conf. Polled		Parameter settings of the remote station are not properly set.	
870	MEM XMT Multi-Copy		Memory overflow occurred while storing documents into memory.	
879	Memory RCV	PSTN	Memory overflow occurred during substitute memory reception.	
		LAN	Memory overflow. Mail Server sent a reset command while downloading the data to the machine.	Memory overflow on the Fax side. Mail server aborted the download (Busy with other higher priority jobs).
880	-	-	File Access Error.	
884	-	-	File Access Error.	
961	RCV	LAN	Memory file access error.	SC PCB is defective.
962	XMT	PSTN	Memory file access error.	SC PCB is defective.
		LAN	Memory file access error.	SC PCB is defective.

4.8. Diagnostic Codes (For Facsimile)

The 13-digit Diagnostic Code is provided for the service engineer to analyze how the communication was performed. The code is recorded on the Journal.

Journal Example

```
*************  -JOURNAL-  *************************  DATE MMM-dd-yyyy  *****  TIME 09:39********

NO.  COMM.  PAGES   FILE  DURATION  X/R    IDENTIFICATION   DATE    TIME    DIAGNOSTIC

01    OK    001     129   00:00'42  XMT    123 456 789      MMM-dd  01:55   C8649003C0000
                                                                             ↑           ↑
                                                                   1st digit    13th digit

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

                                                        -  PANASONIC DP-1810F

******************************  -  PANASONIC DP-1810F-  *****  -12345678901234567890-  *******
```

1st Digit: Manufacturer Code
-: Not used/defined

Fax Diagnostic Codes				
Data	**Definition**			
	Manufacturer Code			
0	-			
1	Casio			
2	Canon			
3	Sanyo			
4	Sharp			
5	Tamura			
6	Toshiba			
7	NEC			
8	Oki			
9	Hitachi			
A	Xerox			
B	Fujitsu			
C	Matsushita			
D	Mitsubishi			
E	Murata			
F	Ricoh			

2nd Digit
-: Not used/defined

Fax Diagnostic Codes				
Data	Definition			
	ID (TSI, CSI, CIG)	RTN	DCN	STOP Button
0	-	-	-	-
1	Received	-	-	-
2	-	Received	-	-
3	Received	Received	-	-
4	-	-	Received	-
5	Received	-	Received	-
6	-	Received	Received	-
7	Received	Received	Received	-
8	-	-	-	Pressed
9	Received	-	-	Pressed
A	-	Received	-	Pressed
B	Received	Received	-	Pressed
C	-	-	Received	Pressed
D	Received	-	Received	Pressed
E	-	Received	Received	Pressed
F	Received	Received	Received	Pressed

3rd Digit
-: Not used/defined

Fax Diagnostic Codes				
Data	Definition			
	Resolution (dpi)	Paper Width		
0	-	A4		
1	S-Fine	A4		
2	400 x 400	A4		
3	300 x 300	A4		
4	-	B4		
5	S-Fine	B4		
6	400 x 400	B4		
7	300 x 300	B4		
8	-	-		
9	-	-		
A	-	-		
B	-	-		
C	-	A3		
D	S-Fine	A3		
E	400 x 400	A3		
F	300 x 300	A3		

4th Digit
-: Not used/defined

Fax Diagnostic Codes				
Data	**Definition**			
	Scanning Rate	**Resolution**		
0	20 ms/line	Std		
1	5 ms/line	Std		
2	10 ms/line	Std		
3	-	Std		
4	40 ms/line	Std		
5	-	Std		
6	-	Std		
7	0 ms/line	Std		
8	20 ms/line	Fine		
9	5 ms/line	Fine		
A	10 ms/line	Fine		
B	-	Fine		
C	40 ms/line	Fine		
D	-	Fine		
E	-	Fine		
F	0 ms/line	Fine		

5th Digit
-: Not used/defined

Fax Diagnostic Codes				
Data	**Definition**			
	Deferred Comm.	**Dialing/RCV**	**Memory/ Non-Memory**	
0	-	Manual Communication	Non-Memory	
1	Used	Manual Communication	Non-Memory	
2	-	Auto Dialing	Non-Memory	
3	Used	Auto Dialing	Non-Memory	
4	-	Auto RCV	Non-Memory	
5	Used	Auto RCV	Non-Memory	
6	-	Remote RCV	Non-Memory	
7	Used	Remote RCV	Non-Memory	
8	-	Manual Communication	Memory	
9	Used	Manual Communication	Memory	
A	-	Auto Dialing	Memory	
B	Used	Auto Dialing	Memory	
C	-	Auto RCV	Memory	
D	Used	Auto RCV	Memory	
E	-	Remote RCV	Memory	
F	Used	Remote RCV	Memory	

6th Digit

-: Not used/defined

Fax Diagnostic Codes				
Data	Definition			
	Polling	XMT/RCV	Selective Comm.	Password Comm.
0	-	RCV	Off	Off
1	Yes	RCV	Off	Off
2	-	XMT	Off	Off
3	Yes	XMT	Off	Off
4	-	RCV	On	Off
5	Yes	RCV	On	Off
6	-	XMT	On	Off
7	Yes	XMT	On	Off
8	-	RCV	Off	On
9	Yes	RCV	Off	On
A	-	XMT	Off	On
B	Yes	XMT	Off	On
C	-	RCV	On	On
D	Yes	RCV	On	On
E	-	XMT	On	On
F	Yes	XMT	On	On

7th Digit

-: Not used/defined

Fax Diagnostic Codes				
Data	Definition			
	Sub-Address Comm.	Confidential Comm.	Relayed Comm.	Turnaround Polling
0	-	-	-	-
1	Yes	-	-	-
2	-	Yes	-	-
3	Yes	Yes	-	-
4	-	-	Yes	-
5	Yes	-	Yes	-
6	-	Yes	Yes	-
7	Yes	Yes	Yes	-
8	-	-	-	Yes
9	Yes	-	-	Yes
A	-	Yes	-	Yes
B	Yes	Yes	-	Yes
C	-	-	Yes	Yes
D	Yes	-	Yes	Yes
E	-	Yes	Yes	Yes
F	Yes	Yes	Yes	Yes

8th Digit
-: Not used/defined

Fax Diagnostic Codes				
Data	Definition			
	Advanced Comm.	Cover Sheet XMT		
0	-	-		
1	Report XMT	-		
2	Check & Call	-		
3	-	-		
4	Memory Transfer	-		
5	-	-		
6	-	-		
7	-	-		
8	-	Yes		
9	Report XMT	Yes		
A	Check & Call	Yes		
B	-	Yes		
C	Memory Transfer	Yes		
D	-	Yes		
E	-	Yes		
F	-	Yes		

9th Digit
-: Not used/defined

Fax Diagnostic Codes				
Data	Definition			
	Short Protocol	Standard/ Non-Standard		
0	-	Standard		
1	-	Standard		
2	-	Standard		
3	-	Standard		
4	-	Standard		
5	-	Standard		
6	-	Standard		
7	-	Standard		
8	-	Non-Standard		
9	B	Non-Standard		
A	-	Non-Standard		
B	D	Non-Standard		
C	-	Non-Standard		
D	B	Non-Standard		
E	-	Non-Standard		
F	D	Non-Standard		

10th Digit
-: Not used/defined

Fax Diagnostic Codes				
Data	**Definition**			
	Coding	**ECM**		
0	MH	-		
1	MR	-		
2	MMR	-		
3	JBIG	-		
4	-	-		
5	-	-		
6	-	-		
7	-	-		
8	MH	Yes		
9	MR	Yes		
A	MMR	Yes		
B	JBIG	Yes		
C	-	Yes		
D	-	Yes		
E	-	Yes		
F	-	Yes		

11th Digit
-: Not used/defined

Fax Diagnostic Codes				
Data	**Definition**			
	Symbol Rate (V.34)	**V.34**		
0	-	-		
1	-	-		
2	-	-		
3	-	-		
4	-	-		
5	-	-		
6	-	-		
7	-	-		
8	2400 sr	Yes		
9	-	Yes		
A	2800 sr	Yes		
B	3000 sr	Yes		
C	3200 sr	Yes		
D	3429 sr	Yes		
E	-	Yes		
F	-	Yes		

12th Digit
-: Not used/defined

Fax Diagnostic Codes				
Data	**Definition**			
	Modem Speed	**Modem Speed (V.34)**		
0	2400 bps	-		
1	4800 bps	2400 bps		
2	7200 bps	4800 bps		
3	9600 bps	7200 bps		
4	TC 7200 bps	9600 bps		
5	TC 9600 bps	12000 bps		
6	12000 bps	14400 bps		
7	14400 bps	16800 bps		
8	-	19200 bps		
9	-	21600 bps		
A	-	24000 bps		
B	-	26400 bps		
C	-	28800 bps		
D	-	31200 bps		
E	-	33600 bps		
F	-	-		

13th Digit
-: Not used/defined

Fax Diagnostic Codes				
Data	**Definition**			
0				
1				
2				
3				
4				
5				
6				
7				
8				
9				
A				
B				
C				
D				
E				
F				

4.9. Troubleshooting (For PCL 6 Emulation Kit)

4.9.1. Checking the Basics

This section explains how to solve problems including error messages or unexpected printing results.

If the Panasonic Printing System (PCL) is not printing or working as expected, and if you are not sure what to do, start your troubleshooting by checking the basics below:

- Ensure that the Ethernet LAN (10Base-T / 100Base-TX) Cable is connected properly
- Ensure that the Internet Parameters are correct
- Ensure that the Panasonic Device is turned on
- Ensure that the Paper is set properly on the Panasonic Device
- No error message is displayed on the Panasonic Device
- Try printing a test page from the printer driver properties dialog box

4.9.2. Document Does Not Print Properly

Problem	Solutions
Character is not printing in the correct positions or the characters near the edges of the page are missing.	• Check and specify the paper size and orientation settings in the printer driver to coincide with the application. • Check if the specified paper is loaded in the Panasonic Device. • Increase the Page Margins in the application. The Panasonic Device requires minimum margins of ¼ inches (4 mm) on all sides.
The font type is wrong.	• Check if the selected font is installed in the PC. • Check if the selected font is being replaced with a proper printer font in the Font Substitution Table of the Printer Driver Properties dialog box. • Select "**Always use TrueType fonts**" from the **Font** tab of the Printer Driver Properties dialog box.
The character is not smooth.	• Select a outline font instead of a bit map font.
Fine line print cannot be obtained.	• Select 600 dpi resolution.
Poor photograph print quality.	• Select 600 dpi resolution.
Different character or symbol from the document is printed.	• Check if the Panasonic Printing System (PCL) printer driver is selected.
The printer does not print anything or prints irregular images from the middle of the 1st page.	• Insufficient Printer Page Memory in the Panasonic Device, install an Expansion D-RAM Card or change the resolution to 300 dpi in the **Quality** tab of the Printer Driver Properties dialog box.
Printing is exceedingly slow.	• Select the Spool settings "**Start printing after first page is spooled**" from the **Details** tab of the Printer Driver Properties dialog box. • Select 300 dpi resolution.

4.9.3. Error Message appears on the PC

Error Message	Solutions
Network Print DLL Error.	• Check if the Panasonic Device is turned "On" and the 10Base-T/ 100Base-TX cable is properly connected. • Printer Properties may be incorrectly configured. (i.e. Printer Port)
Network Port is Busy.	• The Panasonic Device may be processing someone's print job, please wait and try again later. • The Panafax facsimile unit is either Transmitting or Receiving an email.
Cannot print because an error is found in the current printer setting.	• Verify and specify the paper size or orientation to coincide with the application and the printer driver settings.

4.9.4. Error Message appears on the Unit

Error Message	Solutions
Cannot complete print job Image memory overflow	• The available Sort Memory in the Panasonic Device may not be enough. Either install an optional Sort Memory or change the resolution to 300 dpi in the Printer Driver Properties dialog box.
Can not complete Confirm print condition	• The print condition may not be matched for the system. Change the printing condition in the Printer Driver Properties dialog box. i.e. Multi-sized printing with stapling order.
Cannot print System error	• Change the resolution to 300 dpi in the Printer Driver properties dialog box.

4.9.5. System Error (CD drive related error during installation)

Problem	Solutions
Can not read the drive.	• Insert the CD into the drive and click “Retry”.

5 Service Modes

5.1. Service Modes (For Copier)

These service modes are provided to assist the technician in checking for abnormalities in the copier and a means of making adjustments to the Input/Output of major components.

5.1.1. Service Mode Procedure

1. To select the service mode
   The service mode is selected when “FUNCTION”, “ORIGINAL SIZE” and “3” keys are sequentially pressed, then F1 will appear in the display.

2. To exit the service mode
   The service mode is reset when the “FUNCTION” and “CLEAR” keys are pressed simultaneously.

5.1.2. Service Mode Functions

Service Modes

Service Mode	**Item**			**Function**
F1	Self Test	00	CCD Test	This test is used for checking the CCD.
		01	LCD/LED Test	This test is used for checking the LCD and LEDs.
		02	Page Memory Test	This test is used for checking the Page Memory.
		03	Print Test Pattern 1	Prints the pattern for setting the Paper position alignment.
		04	Print Test Pattern 2	**Factory use only.**
		05	PRT PWM Adj. Pattern	Prints the gray steps when the Start key is pressed. **(Factory use only)**
F2	Single Copy Test			One sheet is copied when the Start key is pressed.
F3	Continuous Copy Test			Multi copies are made when the Start key is pressed.
F4	Input / Output Status Test			The functioning of Input / Output items (selected item numbers) is checked.
F5	Function Parameters			Various function settings (selected by code numbers) can be changed.
F6	Adjustment Parameters			Various function settings (selected by code numbers) can be adjusted.

Service Modes					
Service Mode	**Item**				**Function**
F7	Electronic Counter	00	Not Used		
		01	Key Operator ID		Key Operator's identification code for access to the counter mode.
		Maintenance Count	02	Total Count	Total count for all copies / prints.
			03	PM Count	Preventive Maintenance count.
			04	Scanner PM Count	PM count for scanner read.
			05	ADF/i-ADF PM Count	PM count for originals fed.
			06	OPC Drum Count	PM count for OPC Drum paper fed.
			27	Drum Rotate Equivalent	PM count for OPC Drum Round Time.
			07	Process Unit Count	PM count for Process Unit paper fed.
			08	Paper Transport Count (See Note)	PM count for Paper Transport Unit paper fed.
		Paper Feed Count	11	Sheet Bypass Count	Total count of paper fed from the sheet bypass.
			12	1st Paper Tray Count	Total count of paper fed from the 1st paper tray.
			13	2nd Paper Tray Count	Total count of paper fed from the 2nd paper tray.
			14	3rd Paper Tray Count	Total count of paper fed from the 3rd paper tray.
			15	4th Paper Tray Count	Total count of paper fed from the 4th paper tray.
		Scanner Count	16	ADF/i-ADF Count	Total count of originals fed through the ADF/i-ADF.
			17	ADF/i-ADF Read Count	Total count of originals scanned through the ADF/i-ADF.
			18	Scanner Count	Total count of scanning operations.
			19	Scanner Read Count	Total count of scanner read.
		Copy Count	20	Copy Print Count	Total count of copies printed.
			21	Copy Scan Count	Total count of copies scanned.
		PC Count	22	PC Print Count	Total count printed from PC.
			23	PC Scan Count	Total count scanned from PC.
		Fax Count	24	Fax Transmit Count	Total count of Fax transmitted.
			25	Fax Receive Count	Total count of Fax received.
			26	Fax Print Count	Total count of Fax printed.
		99	All Counter Clear		Press START to Clear.

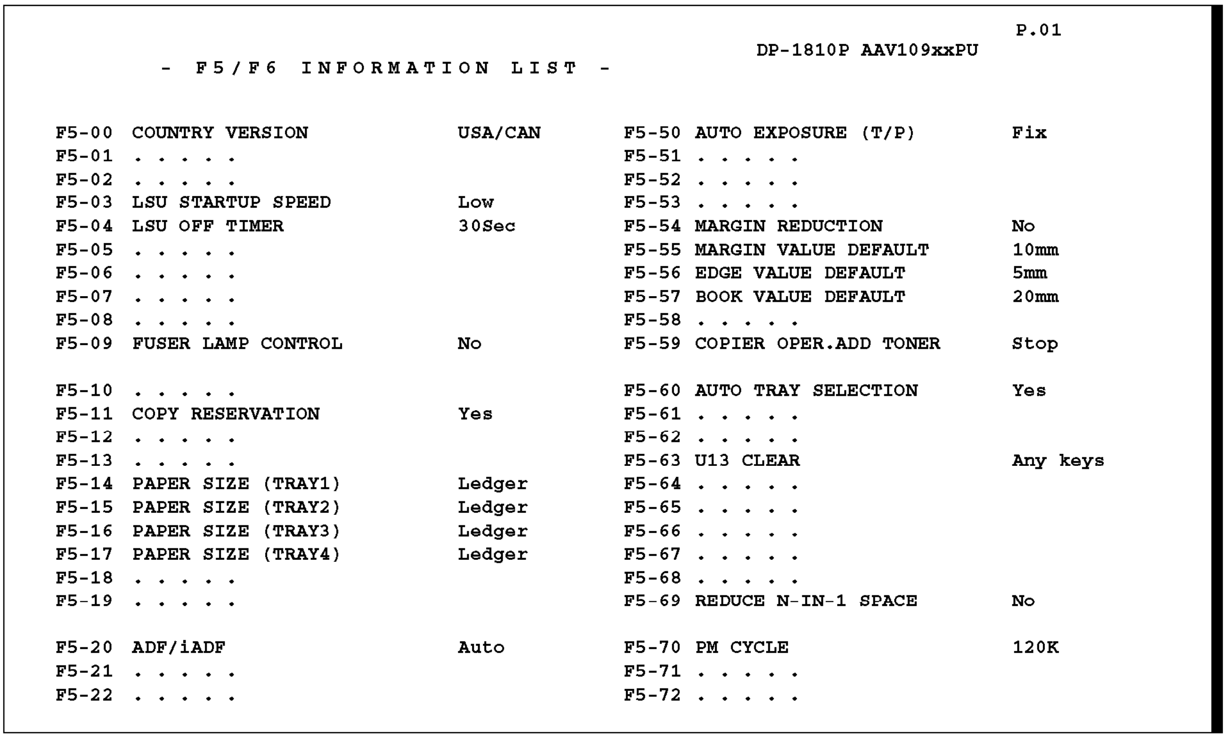
Service Modes

Service Mode	Item			Function
F8	Service Adjustment			Perform pseudo-operation of an item (selected by code numbers).
		00	CHK Mirror Movement	When replacing the exposure lamp. Procedure: a) Press the Start key to move the exposure lamp to the position (approx. 9.8 in / 250mm from the optics home position) where it can be replaced. b) To return the optical system to the home position, press the STOP key.*
		06	Error Log Print/View	a) Each time the arrow key is pressed, the machine errors or paper jam codes stored in memory are displayed, beginning with the oldest code. **Note:** Only the 30 most recent codes are displayed.
		07	Error Log Clear	a) Press the Reset key. A Message "Error code can be cleared with the Start key" is displayed on the LCD.* b) Press the Start key.
		19	Move Mirror To Lock	a) Press the Start key then the mirror unit moves to locked position for transporting the copier. b) When the mirror unit is locked, any digit key input is not be accepted. **Note:** The lock operation is automatically reset when the Power switch is turned ON again.
		47	ADF Continuous Test	Press START key to start.
		48	Book Scan Test	Press START key to start.

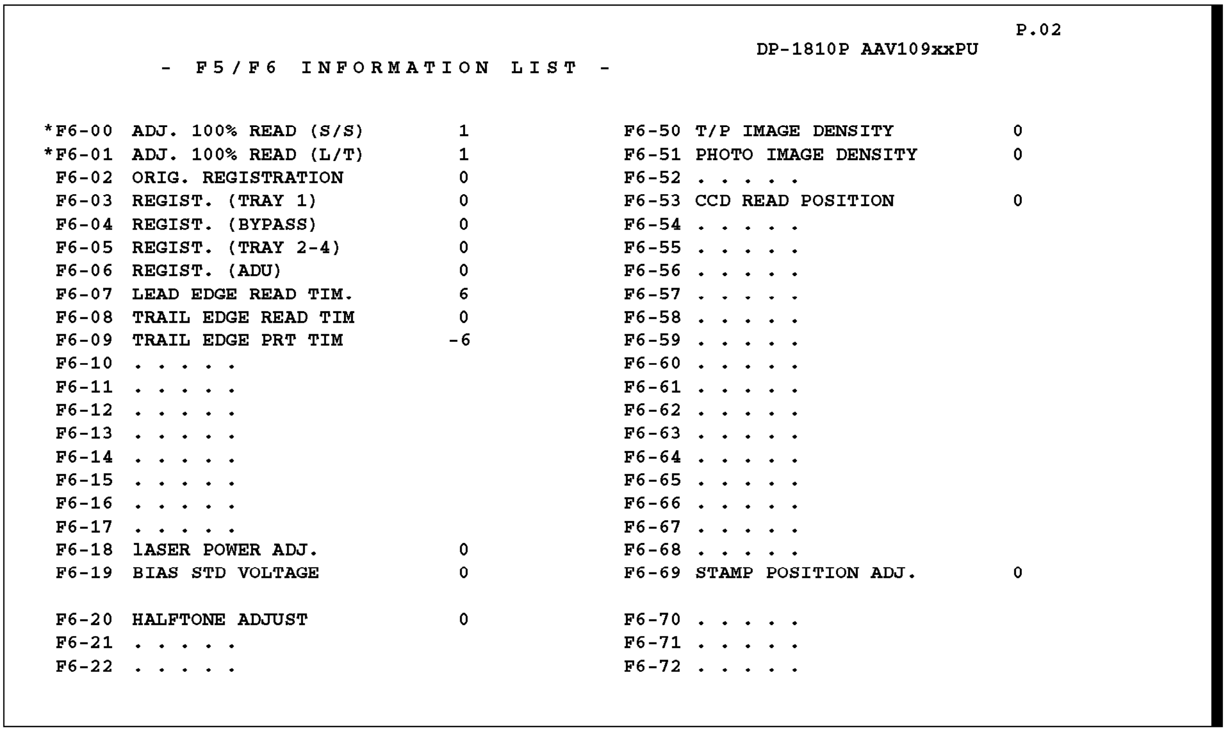
Service Modes

Service Mode	Item					Function
F9	Unit Maintenance	00	Fax Function Parameters			
		01	Service Alert Tel #			Displays the contact number when a machine malfunction occurs.
		02	Firmware Version	00	Host	Displays the firmware version for host.
				02	Scanner	Displays the firmware version for scanner.
				03	Printer	Displays the firmware version for printer.
				05	Printer Board (PDL)	Displays the firmware version for PDL.
				06	LAN Board	Displays the firmware version for LAN.
				08	Modem	Displays the firmware version for modem.
		03	Print Device Info.	00	F5/F6 Parameters	Prints the memory contents of the F5 and F6 modes.
				01	Printer Report	Prints the printer report.
				02	Counter Information	Prints the counter information.
				03	System Addr. Info.	Prints the system memory setting.
				04	RAM Addr. Info.	Prints the RAM data dump list.
		04	RAM Edit Mode			**Factory use only.**
		06	RAM Initialize	00	Parameter Initialize	Resets the Fax and Function parameters to default values.
				01	All Job Clear	Clears all Jobs stored in Flash Memory.
				02	LBP Error Log Clear	Clears the Printer Error Log.
				03	Shipment Set	Clears All Jobs, All Preset Data, Parameter Initialize & Resets the Counters (Fax).
				04	LBP Fuser Reset	Clears the LBP fuser error.
		07	Firmware Update	00	Host Program (4MB)	Updates the firmware in the machine with the Master Firmware Card.
				01	Host Part A (2MB)	
				02	Host Part B (2MB)	
				03	PDL Board (2MB)	
				04	LAN Board (2MB)	
				05	PC → Host Program	
		08	Firmware Backup	00	Host Program (4MB)	Creates a Backup Firmware Card of the machine's firmware.
				01	Host Part A (2MB)	
				02	Host Part B (2MB)	
		09	PC → Flash Card			Creates a Master Firmware Card using the Firmware Update Kit. A 2MB or 4MB Flash Memory Card will be required depending upon the model.
		10	Page Memory Size			Displays the page memory size (MB).
		11	Sort Memory Size			Displays the sort memory size (MB).

F5 / F6 Information List (Sample)



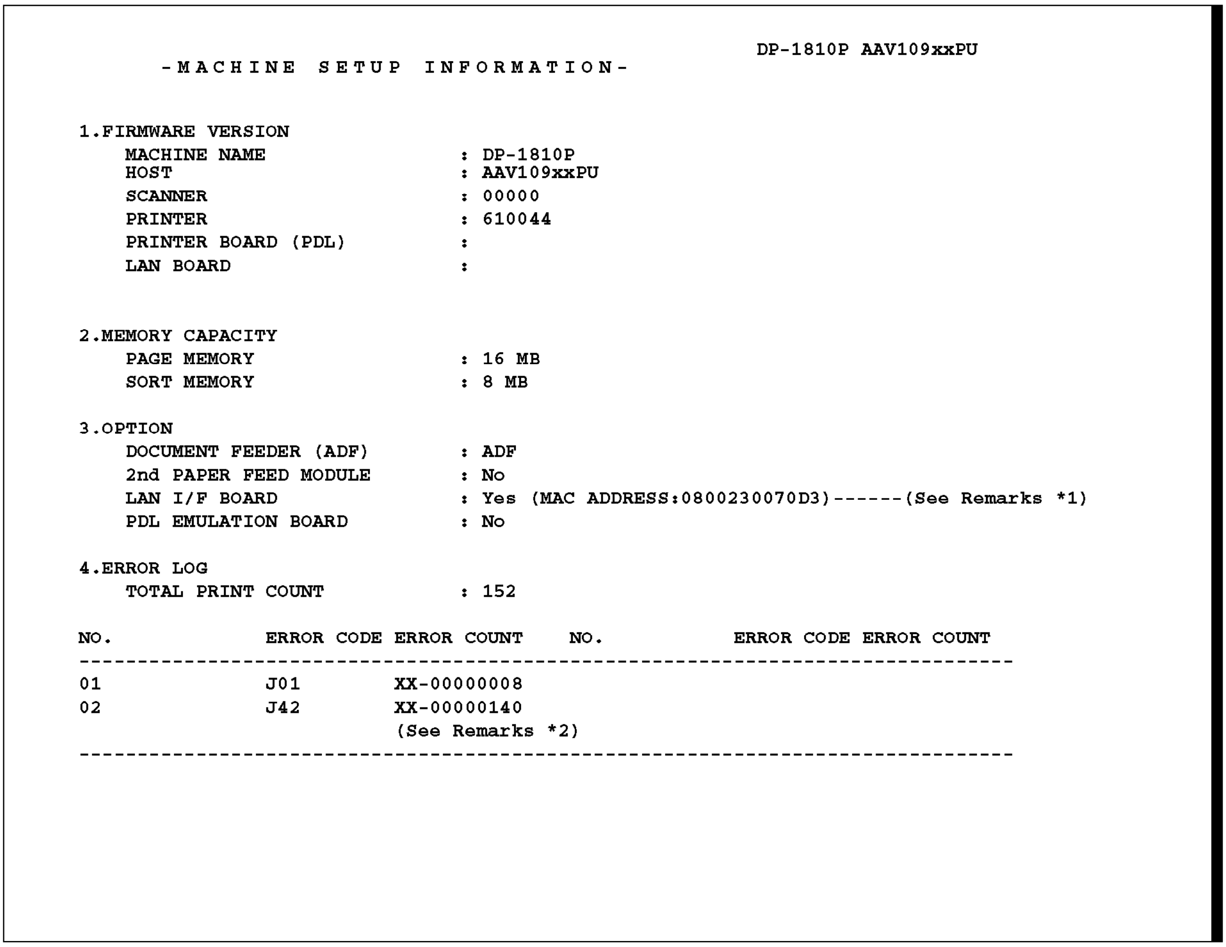
```
                                                                      P.01
                                                    DP-1810P AAV109xxPU
         - F5/F6 INFORMATION LIST -

    F5-00 COUNTRY VERSION            USA/CAN      F5-50 AUTO EXPOSURE (T/P)       Fix
    F5-01 . . . . .                               F5-51 . . . . .
    F5-02 . . . . .                               F5-52 . . . . .
    F5-03 LSU STARTUP SPEED          Low          F5-53 . . . . .
    F5-04 LSU OFF TIMER              30Sec        F5-54 MARGIN REDUCTION          No
    F5-05 . . . . .                               F5-55 MARGIN VALUE DEFAULT      10mm
    F5-06 . . . . .                               F5-56 EDGE VALUE DEFAULT        5mm
    F5-07 . . . . .                               F5-57 BOOK VALUE DEFAULT        20mm
    F5-08 . . . . .                               F5-58 . . . . .
    F5-09 FUSER LAMP CONTROL         No           F5-59 COPIER OPER.ADD TONER     Stop

    F5-10 . . . . .                               F5-60 AUTO TRAY SELECTION       Yes
    F5-11 COPY RESERVATION           Yes          F5-61 . . . . .
    F5-12 . . . . .                               F5-62 . . . . .
    F5-13 . . . . .                               F5-63 U13 CLEAR                 Any keys
    F5-14 PAPER SIZE (TRAY1)         Ledger       F5-64 . . . . .
    F5-15 PAPER SIZE (TRAY2)         Ledger       F5-65 . . . . .
    F5-16 PAPER SIZE (TRAY3)         Ledger       F5-66 . . . . .
    F5-17 PAPER SIZE (TRAY4)         Ledger       F5-67 . . . . .
    F5-18 . . . . .                               F5-68 . . . . .
    F5-19 . . . . .                               F5-69 REDUCE N-IN-1 SPACE       No

    F5-20 ADF/iADF                   Auto         F5-70 PM CYCLE                  120K
    F5-21 . . . . .                               F5-71 . . . . .
    F5-22 . . . . .                               F5-72 . . . . .
```



```
                                                                      P.02
                                                    DP-1810P AAV109xxPU
         - F5/F6 INFORMATION LIST -

   *F6-00 ADJ. 100% READ (S/S)       1            F6-50 T/P IMAGE DENSITY         0
   *F6-01 ADJ. 100% READ (L/T)       1            F6-51 PHOTO IMAGE DENSITY       0
    F6-02 ORIG. REGISTRATION         0            F6-52 . . . . .
    F6-03 REGIST. (TRAY 1)           0            F6-53 CCD READ POSITION         0
    F6-04 REGIST. (BYPASS)           0            F6-54 . . . . .
    F6-05 REGIST. (TRAY 2-4)         0            F6-55 . . . . .
    F6-06 REGIST. (ADU)              0            F6-56 . . . . .
    F6-07 LEAD EDGE READ TIM.        6            F6-57 . . . . .
    F6-08 TRAIL EDGE READ TIM        0            F6-58 . . . . .
    F6-09 TRAIL EDGE PRT TIM        -6            F6-59 . . . . .
    F6-10 . . . . .                               F6-60 . . . . .
    F6-11 . . . . .                               F6-61 . . . . .
    F6-12 . . . . .                               F6-62 . . . . .
    F6-13 . . . . .                               F6-63 . . . . .
    F6-14 . . . . .                               F6-64 . . . . .
    F6-15 . . . . .                               F6-65 . . . . .
    F6-16 . . . . .                               F6-66 . . . . .
    F6-17 . . . . .                               F6-67 . . . . .
    F6-18 lASER POWER ADJ.           0            F6-68 . . . . .
    F6-19 BIAS STD VOLTAGE           0            F6-69 STAMP POSITION ADJ.       0

    F6-20 HALFTONE ADJUST            0            F6-70 . . . . .
    F6-21 . . . . .                               F6-71 . . . . .
    F6-22 . . . . .                               F6-72 . . . . .
```

Note:
To print the List, follow the steps below.
F9 - START - 3 - START or SET - 0.

Machine Setup Information List (Sample)



```
                                                          DP-1810P AAV109xxPU
          -MACHINE SETUP INFORMATION-

     1.FIRMWARE VERSION
         MACHINE NAME                : DP-1810P
         HOST                        : AAV109xxPU
         SCANNER                     : 00000
         PRINTER                     : 610044
         PRINTER BOARD (PDL)         :
         LAN BOARD                   :


     2.MEMORY CAPACITY
         PAGE MEMORY                 : 16 MB
         SORT MEMORY                 : 8 MB

     3.OPTION
         DOCUMENT FEEDER (ADF)       : ADF
         2nd PAPER FEED MODULE       : No
         LAN I/F BOARD               : Yes (MAC ADDRESS:0800230070D3)------(See Remarks *1)
         PDL EMULATION BOARD         : No

     4.ERROR LOG
         TOTAL PRINT COUNT           : 152

     NO.             ERROR CODE ERROR COUNT    NO.            ERROR CODE ERROR COUNT
     --------------------------------------------------------------------------------
     01              J01        XX-00000008
     02              J42        XX-00000140
                                (See Remarks *2)
     --------------------------------------------------------------------------------
```

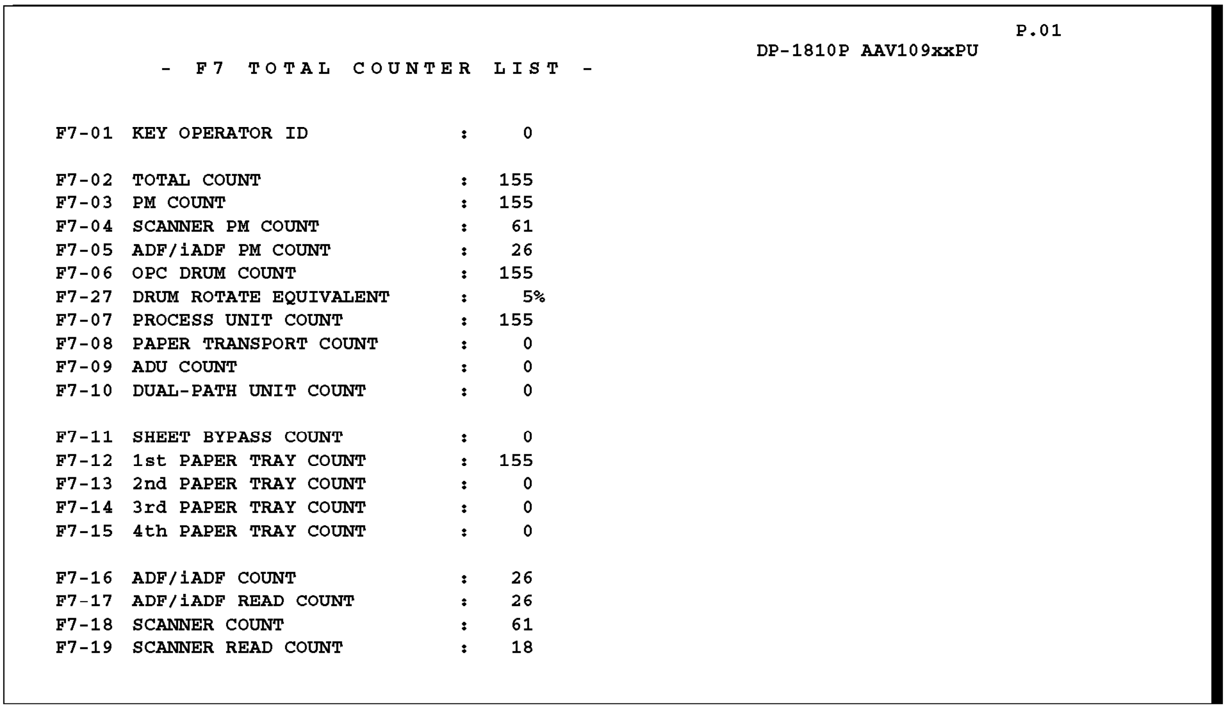
```
Remarks:
*1:If the LAN I/F Option is installed, the MAC Address is printed.
*2:XX-00000140
    |      |
    |      Page Count
    |
   00 : Printer Error
   02 : Scanner Error
```

Note:

To print the List, follow the steps below.

F9 - START - 3 - START or SET - 1.

F7 Total Counter List (Sample)



```
                                                                          P.01
                                                       DP-1810P AAV109xxPU
         - F7  TOTAL  COUNTER  LIST -


    F7-01  KEY OPERATOR ID              :     0

    F7-02  TOTAL COUNT                  :   155
    F7-03  PM COUNT                     :   155
    F7-04  SCANNER PM COUNT             :    61
    F7-05  ADF/iADF PM COUNT            :    26
    F7-06  OPC DRUM COUNT               :   155
    F7-27  DRUM ROTATE EQUIVALENT       :     5%
    F7-07  PROCESS UNIT COUNT           :   155
    F7-08  PAPER TRANSPORT COUNT        :     0
    F7-09  ADU COUNT                    :     0
    F7-10  DUAL-PATH UNIT COUNT         :     0

    F7-11  SHEET BYPASS COUNT           :     0
    F7-12  1st PAPER TRAY COUNT         :   155
    F7-13  2nd PAPER TRAY COUNT         :     0
    F7-14  3rd PAPER TRAY COUNT         :     0
    F7-15  4th PAPER TRAY COUNT         :     0

    F7-16  ADF/iADF COUNT               :    26
    F7-17  ADF/iADF READ COUNT          :    26
    F7-18  SCANNER COUNT                :    61
    F7-19  SCANNER READ COUNT           :    18
```

Note:

To print the List, follow the steps below.
F9 - START - 3 - START or SET - 2.

5.1.3. F4 Mode: Input/Output Check

Set the machine to service mode and press "4" on the Keypad.

↓

Press the “START” key.

↓

Select the Check Input or Check Output on the Control Panel.

↓

Enter the number to activate the test then press “START” key.

↓

Press “STOP” key to cancel the test.

↓

When the “CLEAR” key is pressed, the selected code input will not be accepted.

↓

Press “FUNCTION” and “CLEAR” keys simultaneously to exit the service mode.

1. **Input Check**

F4 Mode (Input Check)

No.	Function	Condition	Message Display								Remark
			7	6	5	4	3	2	1	0	
000	Not Used										
001	Paper Registration Sensor (4th Paper Tray)	Sensor is activated.		1							For DP-1810F/2010E
	Paper Registration Sensor (3rd Paper Tray)	Sensor is activated.			1						
	Paper Registration Sensor (2nd Paper Tray)	Sensor is activated.				1					
002	Registration Sensor	Sensor is activated.					1				
	Paper Eject Sensor	Sensor is activated.						1			
	Dual-Path Exit Guide Unit Eject Sensor	Sensor is activated.							1		For DP-1810F/2010E
006	Duplex Unit Sensor 4	Sensor is activated.				1					
	Duplex Unit Sensor 3	Sensor is activated.					1				
	Duplex Unit Sensor 2	Sensor is activated.						1			
	Duplex Unit Sensor 1	Sensor is activated.							1		
007	JAM Access Cover Open Detection Sensor (4th Tray)	Cover is open.				1					For DP-1810F/2010E
	Paper Level Sensor (4th Tray)	Upper Limit is detected.					1				
	Paper Tray Sensor (4th Tray)	Paper Tray is detected.						1			
	NP Sensor (4th Tray)	Paper is detected.							1		

F4 Mode (Input Check)

No.	Function	Condition	Message Display								Remark
			7	6	5	4	3	2	1	0	
008	JAM Access Cover Open Detection Sensor (3rd Tray)	Door is open.				1					For DP-1810F/2010E
	Paper Level Sensor (3rd Tray)	Upper Limit is detected.					1				
	Paper Tray Sensor (3rd Tray)	Paper Tray is detected.						1			
	NP Sensor (3rd Tray)	Paper is detected.							1		
009	JAM Access Cover Open Detection Sensor (2nd Tray)	Door is closed.				1					
	Paper Level Sensor (2nd Tray)	Upper Limit is detected.					1				
	Paper Tray Sensor (2nd Tray)	Paper Tray is detected.						1			
	NP Sensor (2nd Tray)	Paper is detected.							1		
010	Paper Level Sensor (1st Tray)	Upper Limit is detected.					1				
	Paper Tray Sensor (1st Tray)	Paper Tray is detected.						1			
	NP Sensor (1st Tray)	Paper is detected.							1		
011	Sheet Bypass Paper Length	Paper is detected.				1					
	Sheet Bypass Paper Length (A3)	Paper is detected.					1				
	Sheet Bypass Paper Length (B4)	Paper is detected.						1			
	Sheet Bypass NP Sensor	Paper is detected.							1		
012	Toner Waste Container Sensor	Toner Waste Container is detected.				1					
	Front Cover Sensor	Front Cover is closed.						1			
	Micro Switch	Right Side Door is closed.						1			
013-019	Not Used										
021	Scanner Home Position	Home position is detected.								1	
	ADF/Platen Cover Open Sensor	ADF/Platen Cover is open.							1		
	ADF/Platen Cover Angle Sensor	ADF/Platen Cover is open more than angle of 30°.						1			
022-029	Not Used										
030	ADF Duplex Eject Sensor	Sensor is activated.									For DP-2010E
	ADF Read Point Sensor	Sensor is activated.							1		
	ADF Eject Sensor	Sensor is activated.						1			For DP-2010E
	ADF Cover Open Detection Sensor	Cover is open.				1					

F4 Mode (Input Check)											
No.	**Function**	**Condition**	**Message Display**								**Remark**
			7	**6**	**5**	**4**	**3**	**2**	**1**	**0**	
031	ADF Original Sensor	Sensor is activated.								1	
	ADF Original Width Sensor (A4/Letter)	A4/Letter size is detected.							1		
	ADF Original Width Sensor (B4)	B4 size is detected.						1			
	ADF Original Width Sensor (A3)	A3 size is detected.					1				
	ADF Original Length Sensor 2	Sensor is activated.				1					
	ADF Original Length Sensor 1	Sensor is activated.			1						For USA and Canada
032-039	Not Used										

2. **Output Check**
   Press the “START” key to start and press the “STOP” key to reset.

F4 Mode (Output Check)			
No.	**Item**	**Function**	**Remark**
040	Total Counter	Count up the Total Counter after pressing Start key.	
041	Key Counter	Count up the Key Counter after pressing Start key.	
042-049	Not Used		
050	Printer Motor	Activate Main Motor after pressing Start key.	
051	High Voltage Charge AC	Activate High Voltage Charge AC after pressing Start key.	
052	High Voltage Charge DC	Activate High Voltage Charge DC after pressing Start key.	
053	High Voltage Development	Activate High Voltage Development after pressing Start key.	
054	High Voltage Transfer	Activate High Voltage Transfer after pressing Start key.	
055	High Voltage Cleaning	Activate High Voltage Cleaning after pressing Start key.	
056	Fan	Activate Fan after pressing Start key.	
057	Power Supply for Fan	Activate Power Supply for Fan after pressing Start key.	
058-059	Not Used		
060	Fuser Lamp	Activate Fuser Lamp after pressing Start key.	
061	Registration Clutch	Activate Registration Clutch after pressing Start key.	
062	Polygon Motor (LSU)	Activate Polygon Motor after pressing Start key.	

F4 Mode (Output Check)			
No.	**Item**	**Function**	**Remark**
063	1st Tray Feed Roller Clutch	Activate 1st Tray Paper Drive Clutch after pressing Start key.	
064	1st Tray Lift DC Motor	Activate 1st Tray Lift DC Motor after pressing Start key.	
065	Not Used		
066	LSU Fan	Activate LSU Fan Motor after pressing Start key.	
067	Toner Bottle Motor	Activate Toner Bottle Motor after pressing Start key.	
068-069	Not Used		
070	2nd Tray Feed Roller Clutch	Activate 2nd Tray Paper Drive Clutch after pressing Start key.	
071	2nd Tray Lift DC Motor	Activate 2nd Tray Lift DC Motor after pressing Start key.	
072	2nd Intermediate Roller Clutch	Activate 2nd Idle Clutch after pressing Start key.	
073-074	Not Used		
075	3rd Tray Motor	Activate 3rd Tray Motor after pressing Start key.	For DP-1810F/2010E
076	3rd Tray Feed Roller Clutch	Activate 3rd Tray Paper Drive Clutch after pressing Start key.	
077	3rd Tray Lift DC Motor	Activate 3rd Tray Lift DC Motor after pressing Start key.	
078	3rd Intermediate Roller Clutch	Activate 3rd Idle Clutch after pressing Start key.	
079	Not Used		
080	4th Tray Feed Roller Clutch	Activate 4th Tray Paper Drive Clutch after pressing Start key.	For DP-1810F/2010E
081	4th Tray Lift DC Motor	Activate 4th Tray Lift DC Motor after pressing Start key.	
082	4th Intermediate Roller Clutch	Activate 4th Idle Clutch after pressing Start key.	
083-084	Not Used		
085	Sheet Bypass Feed Roller Clutch	Activate Sheet Bypass Clutch after pressing Start key.	
086-099	Not Used		
100	Duplex Unit Solenoid (Eject 2)	Activate Automatic Duplex Unit Solenoid (Eject 2) after pressing Start key.	For DP-2010E
101	Duplex Unit Solenoid (Eject 1)	Activate Automatic Duplex Unit Solenoid (Eject 1) after pressing Start key.	
102-119	Not Used		
120	CCD Assembly	Activate CCD Assembly after pressing Start key.	

5.1.4. F5 Mode: Copier Function Parameters

Set the machine to Service Mode and press "5" on the Keypad.
↓
Press the “START” key.
↓
Select the desired code number on the Control Panel.
↓
If you wish to select another code number, scroll the menu with the arrow keys (↑ ↓).
↓
Select the desired function on the Control Panel and press the “START” key.
↓
When the “CLEAR” key is pressed, the selected setting inputted will not be accepted.
↓
Press the “FUNCTION” and “CLEAR” keys simultaneously to exit the Service Mode.
↓
Reboot the machine after setting the parameter(s) to activate the setting(s).

Note:
If you change the Function Parameter “F5 - 00”, Country version, you must also change the related Function Parameters “F5 - 80, 95, 96”.

F5 Mode			
No.	**Item**	**Function**	**Factory Setting**
00	Country Version (See Note)	0 : Japanese 1 : North American 2 : European 3 : Other	1 (for North America) 2 (for Europe/ Other)
01-02	Not Used		
03	LSU Startup Speed	0 : Low 1 : Stop	0
04	LSU Off Timer	0 : 15 sec 1 : 30 sec 2 : 45 sec 3 : 60 sec 4 : 75 sec	1
05-08	Not Used		
09	Fuser Lamp Phase Control	0 : Zero cross control (No) 1 : Phase control (Pattern 1) 2 : Phase control (Pattern 2)	0 (for North America) 2 (for Europe/ Other)
10	Not Used		
11	Copy Reservation	0 : No 1 : Yes	1
12-13	Not Used		

F5 Mode			
No.	**Item**	**Function**	**Factory Setting**
14	Paper Size (Tray 1)	0 : Ledger 1 : Legal 2 : Letter 3 : Letter-R 4 : INVOICE/A5-R 5 : A3 6 : B4 7 : A4 8 : A4-R 9 : B5 10 : B5-R 11 : A5-R 12 : FLS1 13 : FLS2	0 (for North America) 5 (for Europe/ Other)
15	Paper Size (Tray 2)	Same as F5-14	Same as F5-14
16	Paper Size (Tray 3)	Same as F5-14	Same as F5-14
17	Paper Size (Tray 4)	Same as F5-14	Same as F5-14
18-19	Not Used		
20	ADF/i-ADF	0 : Off (Does not detect the option) 1 : Auto	1
21-23	Not Used		
24	ADU	0 : Off (Does not detect the option) 1 : Auto	1
25-34	Not Used		
35	Sort Mode Default	0 : Non-sort 1 : Sort	0
36-37	Not Used		
38	Duplex Mode Default	0 : No 1 : 1 to 2 2 : 2 to 2 3 : Book to 2	0 (For DP-2010E)
39	Not Used		
40	Double Count (Total Counter, Key Counter, and Electronic Counter)	0 : No 1 : Ledger/A3 2 : Ledger/Legal/A3/B4	1
41	Count Up Timing	0 : At paper feed roller clutch (and sheet bypass solenoid) 1 : At paper exit sensor	1
42	Key/Dept. Counter	0 : Not installed 1 : Key Counter Installed 2 : Departmental Counter	0
43	Key Counter Timing	Same as F5-41	0
44-49	Not Used		
50	Automatic Exposure (Tex/Photot)	0 : No 1 : Yes 2 : Fix	2
51-53	Not Used		
54	Margin Reduction	0 : No 1 : Yes	0

F5 Mode			
No.	**Item**	**Function**	**Factory Setting**
55	Margin Value Default	0 : 5mm 1 : 10mm 2 : 15mm 3 : 20mm	1
56	Edge Value Default	0 : 5mm 1 : 10mm 2 : 15mm 3 : 20mm	0
57	Book Value Default	0 : 5mm 1 : 10mm 2 : 15mm 3 : 20mm	1
58	Not Used		
59	Copier Operation U13 (After "U13" Toner Box empty detection)	0 : Stop (Copier stops or copy cycle is inhibited). 1 : Continue (Continuous copier operation)	0
60	Auto Tray Selection	0 : No (Manual) 1 : Yes (Auto)	1
61-62	Not Used		
63	U13 Clear=After toner empty detection (Copier stops or copy cycle inhibited)	0 : Any keys (When clearing U13, press any key.) 1 : User key (Press FUNCTION key and digit key 1.)	0
64-68	Not Used		
69	Reduce N-in-1 Space	0 : No 1 : Yes	0
70	PM (Preventive Maintenance)	0 : No 1 : 1.5K 2 : 2.5K 3 : 5K 4 : 10K 5 : 15K 6 : 20K 7 : 30K 8 : 40K 9 : 60K 10 : 80K 11 : 90K 12 : 120K 13 : 160K	12
71	Not Used		
72	Not Used		
73	PM (OPC Drum) (Preventive Maintenance for OPC Drum)	0 : No (No indication) 1 : Service 2 : User	1
74	PM (Process Unit) (Preventive Maintenance for Process Unit)	0 : No (No indication) 1 : Service 2 : User	1
75	Not Used		

F5 Mode			
No.	**Item**	**Function**	**Factory Setting**
76	Automatic Exposure (Text)	0 : No 1 : Yes 2 : Fix	2
77	Text Error Diffusion	0 : Off 1 : On (Execute error diffusion on Text mode.)	1
78	A4/LTR Size Select	0 : No 1 : Yes (Set paper side to A4/LTR if original is less than A4/LTR.)	0
79	Not Used		
80	Paper Size Priority (See Note)	0 : Ledger 1 : Legal 2 : Letter 3 : Letter-R 4 : INVOICE 5 : A3 6 : B4 (B4/FLS1/FLS2) 7 : A4 8 : A4-R 9 : B5 10 : B5-R 11 : A5 12 : A5-R	2 (for North American) 6 (Selectable by No. 81) 7 (for European/ Other)
81	B4/Foolscap Size (for European version)	0 : B4 1 : Foolscap 1 (13” x 8") 2 : Foolscap 2 (13” x 8.5")	0
82	Manual Skyshot Mode	0 : Off1 : M1 On 2 : M2 On3 : M1, M2 On	0
83	Digital Skyshot	0 : No 1 : Normal 2 : Quality	1
84	Paper Tray Priority (Left to Right)	0 : System (lower to upper) > Sheet Bypass 1 : Copier (upper to lower) > Sheet Bypass	1
85	Not Used		
86	PM (Scanner)	0 : No 1 : 40K 2 : 60K 3 : 120K 4 : 240K 5 : 360K 6 : 480K 7 : 600K	0
87	PM (ADF/i-ADF)	0 : No 1 : 40K 2 : 60K 3 : 120K 4 : 240K 5 : 360K 6 : 480K 7 : 600K	0

F5 Mode

No.	Item	Function	Factory Setting
88-89	Not Used		
90	Beep Sound	0 : Off 1 : Soft 2 : Loud	1
91	M1, Size Y	Set the default size for Manual Skyshot Mode, M1 and M2.	160
92	M1, Size X		70
93	M2, Size Y		220
94	M2, Size X		95
95	Paper Size (FA) **(Factory use only)** (See Note)	0 : Japanese 1 : North American 2 : European 3 : Other	-
96	Bypass Size (FA) **(Factory use only)** (See Note)	0 : Japanese 1 : North American 2 : European 3 : Other	-
97	Not Used		
98	Bypass B4/FLS (FA) **(Factory use only)**	0 : B4 1 : Foolscap 1 (13” x 8") 2 : Foolscap 2 (13” x 8.5")	0
99	Not Used		

Note:

If you change the Function Parameter “F5 - 00”, Country version, you must also change the related Function Parameters “F5 - 80, 95, 96”.

Related Function Parameters

No.	Country Version	
	North American	European
00	1	2
80	2	7
95	1	2
96	1	2

5.1.5. F6 Mode: Adjustment and Programming

Set the machine to Service Mode and press "6" on the Keypad.

↓

Press the "START" key.

↓

Select the desired code number on the Control Panel.

↓

If you wish to select another code number, scroll the menu with the arrow keys (↑ ↓).

↓

Select the desired function on the Control Panel and press the “START” key.

↓

When the “CANCEL” key is pressed, the selected setting inputted will not be accepted.

↓

Press the “FUNCTION” and “CLEAR” keys simultaneously to exit the Service Mode.

↓

Reboot the machine after setting the parameter(s) to activate the setting(s).

F6 Mode			
No.	**Item**	**Function**	**Setting**
00	Main-scan direction magnification ratio (vertical position to the paper feed direction) (standard = 100%)	Adjustment of ratio for vertical position when scan is made. (+) : Increase. (-) : Decrease.	-9 - +9 0.1%
01	Sub-scan direction magnification ratio (parallel position to the paper feed direction)	Adjustment of ratio for parallel position when scan is made. (+) : Increase. (-) : Decrease.	-9 - +9 0.1%
02	Platen original registration detecting timing	Adjustment of platen original registration detection timing. (+) : More delay. (-) : Less delay.	-30 - +30 0.2mm
03	Copy paper registration detecting timing (1st Tray)	Delay time is adjusted from registration roller clutch ON. (+) : More delay. (-) : Less delay.	-30 - +30 0.25mm
04	Copy paper registration detecting timing (Sheet Bypass)	Delay time is adjusted from registration roller clutch ON. (+) : More delay. (-) : Less delay.	-30 - +30 0.25mm
05	Copy paper registration detecting timing (2nd Tray)	Delay time is adjusted from registration roller clutch ON. (+) : More delay. (-) : Less delay.	-30 - +30 0.25mm
06	Copy paper registration detecting timing (Auto. Duplex Unit)	Delay time is adjusted from registration roller clutch ON. (+) : More delay. (-) : Less delay.	-30 - +30 0.25mm
07	Registration void of image	Registration void should be adjusted. (+) : Increase. (-) : Decrease.	0 - +99 0.425mm

F6 Mode			
No.	**Item**	**Function**	**Setting**
08	Trail edge detection timing of the original image	Adjustment of trail edge void. (-) : Decrease.	-9 - 0 0.5mm
09	Trail edge detection timing of the copy image	Adjustment of trail edge void. (+) : Increase. (-) : Decrease.	-9 - +15 0.425mm
10-17	Not Used		
18	Laser power compensation	Laser power compensation adjustment. (+) : Increase. (-) : Decrease.	-127 - 127
19	Bias standard voltage	Adjustment of bias standard voltage. (+) : Increase. (-) : Decrease.	-127 - 127 2.28V
20	Halftone Adjust	Halftone adjustment, Print density for Photo Mode. (-) : Darker. (+) : Lighter.	-8 - +7
21-30	Not Used		
31	Fuser Temperature	Adjustment of fuser temperature. (+) : Increase. (-) : Decrease.	-15 - +15 0.7°C
32-38	Not Used		
39	LSU Unit PWM	Adjustment of PWM value of LSU. (+) : Darker. (-) : Lighter.	-32 - +32
40	Not Used		
41	Paper Loop (1st Tray)	Adjustment for the length of the loop formed before the copier timing roller. (+) : Increase. (-) : Decrease.	-8 - +7 0.5mm
42	Paper Loop (Sheet Bypass)	Adjustment for the length of the loop formed before the copier timing roller. (+) : Increase. (-) : Decrease.	-8 - +7 0.5mm
43	Paper Loop (2nd Tray)	Adjustment for the length of the loop formed before the copier timing roller. (+) : Increase. (-) : Decrease.	-8 - +7 0.5mm
44	Paper Loop (Auto. Duplex Unit)	Adjustment for the length of the loop formed before the copier timing roller. (+) : Increase. (-) : Decrease.	-8 - +7 0.5mm
45-48	Not Used		
49	Text Mode Image Density	Image density adjustment for Text mode. (-) : Darker. (+) : Lighter.	-99 - +99
50	Text/Photo Mode Image Density	Image density adjustment for Text/ Photo mode. (-) : Darker. (+) : Lighter.	-99 - +99

F6 Mode

No.	Item	Function	Setting
51	Photo Mode Image Density	Image density adjustment for Photo mode. (-) : Darker. (+) : Lighter.	-99 - +99
52	Not Used		
53	CCD Read Timing	Adjustment of CCD read position. (+) : More delay. (-) : Less delay.	-44 - +44 0.2mm
54-68	Not Used		
69	Stamp Position Adjustment	Adjustment of verification stamp position. (+) : More delay. (-) : Less delay.	-7 - +7 0.5mm
70-78	Not Used		
79	MTF Adjustment	Adjustment of MTF. (+) : Darken edge. (-) : Lighten edge.	-127 - +127
80-82	Not Used		
83	Laser Unit Image Side (Sheet Bypass)	Laser write start position adjustment (side to side adjustment). (+) : More delay. (-) : Less delay.	-8 - +7 0.5mm
84	Laser Unit Image Side (1st Tray)		
85	Laser Unit Image Side (2nd Tray)		
86	Laser Unit Image Side (3rd Tray)		
87	Laser Unit Image Side (4th Tray)		
88	Not Used		
89	Laser Unit Image Side (Auto. Duplex Unit)	Laser write start position adjustment (side to side adjustment). (+) : More delay. (-) : Less delay.	-8 - +7 0.5mm
90	ADF Image Read Start	Adjustment of ADF horizontal image read start position. (+) : More delay. (-) : Less delay.	-50 - +9 0.2mm
91	ADF Original Lead Edge Registration	Adjustment of original detection timing. (+) : More delay. (-) : Less delay.	-99 - +99 0.2mm
92	Not Used		
93	ADF Original Trail Edge	Adjustment of original trail edge detection. (+) : More delay. (-) : Less delay.	-127 - 127 0.2mm
94	ADF Magnification Ratio (Top Feed)	Adjustment of ratio when the scan is made. (+) : Increase. (-) : Decrease.	-9 - +9 0.1%
95-98	Not Used		
99	All F6 Parameters Initialize	Initialize All F6 Parameters	-

5.1.6. F7 Mode: Electronic Counter

Set the machine to Service Mode and press "7" on the Keypad.
↓
Press the “START” key.
↓
Select the desired code number on the Control Panel.
↓
If you wish to select another code number, scroll the menu with the arrow keys (↑ ↓).
↓
Select the desired function on the Control Panel and press the “START” key.
↓
When the “CLEAR” key is pressed, the selected setting inputted will not be accepted.
↓
Press the “FUNCTION” and “CLEAR” keys simultaneously to exit the Service Mode.

F7 Mode					
Service Mode	**Item**				**Function**
F7	Electronic Counter	00	Not Used		
		01	Key Operator ID		Key Operator’s identification code for access to the counter mode.
		Maintenance Count	02	Total Count	Total count for all copies / prints.
			03	PM Count	Preventive Maintenance count.
			04	Scanner PM Count	PM count for scanner read.
			05	ADF/i-ADF PM Count	PM count for originals fed.
			06	OPC Drum Count	PM count for OPC Drum paper fed.
			27	Drum Rotate Equivalent	PM count for OPC Drum Round Time.
			07	Process Unit Count	PM count for Process Unit paper fed.
			08	Paper Transport Count	PM count for Paper Transport Unit paper fed.
		Paper Feed Count	11	Sheet Bypass Count	Total count of paper fed from the sheet bypass.
			12	1st Paper Tray Count	Total count of paper fed from the 1st paper tray.
			13	2nd Paper Tray Count	Total count of paper fed from the 2nd paper tray.
			14	3rd Paper Tray Count	Total count of paper fed from the 3rd paper tray.
			15	4th Paper Tray Count	Total count of paper fed from the 4th paper tray.
		Scanner Count	16	ADF/i-ADF Count	Total count of originals fed through the ADF/i-ADF.
			17	ADF/i-ADF Read Count	Total count of originals scanned through the ADF/i-ADF.
			18	Scanner Count	Total count of scanning operations.
			19	Scanner Read Count	Total count of scanner read.

F7 Mode					
Service Mode	**Item**				**Function**
F7	Electronic Counter	Copy Count	20	Copy Print Count	Total count of copies printed.
			21	Copy Scan Count	Total count of copies scanned.
		PC Count	22	PC Print Count	Total count printed from PC.
			23	PC Scan Count	Total count scanned to PC.
		Fax Count	24	Fax Transmit Count	Total count of Fax transmitted.
			25	Fax Receive Count	Total count of Fax received.
			26	Fax Print Count	Total count of Fax printed.
		99	Clear All Counts		All counters are cleared.

5.1.7. F8 Mode: Copier Operation Adjustment

Set the machine to Service Mode and press "8" on the Keypad.
↓
Press the “START” key.
↓
Select the desired code number on the Control Panel.
↓
If you wish to select another code number, scroll the menu with the arrow keys (↑ ↓).
↓
Select the desired function on the Control Panel and press the “START” key.
↓
When the “CANCEL” key is pressed, the selected setting inputted will not be accepted.
↓
Press the “FUNCTION” and “CLEAR” keys simultaneously to exit the Service Mode.

F8 Mode		
No.	**Item**	**Function**
00	Check Mirror Movement	When replacing the exposure lamp. Procedure: a) Press the START key to move the exposure lamp to the position (approx. 250 mm from the optics home position) where it can be replaced. b) To return the optical system to the home position, press the STOP key.*
01-05	Not Used	
06	Error Log Print/View	a) Each time the arrow key is pressed, the machine errors or paper jam codes stored in memory are displayed, beginning with the oldest code. **Note:** Only the 30 most recent codes are displayed.
07	Error Log Clear	a) Press the Reset key. A Message "Error code can be cleared with the Start key" is displayed on the LCD.* b) Press the Start key.
08-11	Not Used	
13-18	Not Used	
19	Lock Operation of Mirror and Lens (Field Use only)	a) Press the Start key then the mirror unit moves to locked position for transporting the copier. b) When the mirror unit is locked, any digit key input is not be accepted. **Note:** The lock operation is automatically reset when the Power switch is turned ON again.
20-46	Not Used	
47	ADF Continuous Scanning Test	Press START key to begin.
48	Book Scan Test	Press START key to begin.
49-54	Not Used	

5.1.8. F9 Mode: System Maintenance

Set the machine to Service Mode and press "9" on the Keypad.
↓
Press the “START” key.
↓
Select the desired code number on the Control Panel.
↓
If you wish to select another code number, scroll the menu with the arrow keys (↑ ↓).
↓
Select the desired function on the Control Panel and press the “START” key.
↓
When the “CANCEL” key is pressed, the selected setting inputted will not be accepted.
↓
Press the “FUNCTION” and “CLEAR” keys simultaneously to exit the Service Mode.

F9 Mode						
Service Mode	**Item**					**Function**
F9	Unit Maintenance	00	Fax Function Parameters			
		01	Service Alert Tel #			Displays the contact number when a machine malfunction occurs.
		02	Firmware Version	00	Host	Displays the firmware version for host.
				02	Scanner	Displays the firmware version for scanner.
				03	Printer	Displays the firmware version for printer.
				05	Printer Board (PDL)	Displays the firmware version for PDL.
				06	LAN Board	Displays the firmware version for LAN.
		03	Print Device Info.	00	F5/F6 Parameters	Prints the memory contents of the F5 and F6 modes.
				01	Machine Info.	Prints the printer report.
				02	Counter Information	Prints the counter information.
				03	System Addr. Info.	Prints the system memory setting.
				04	RAM Addr. Info.	Prints the RAM data dump list.
		04	RAM Edit Mode			**Factory use only.**
		05	Not Used			
		06	RAM Initialize	00	Parameter Initialize	Resets the Fax and Function parameters to default values.
				01	All Job Clear	Clears all Jobs stored in Flash Memory.
				02	LBP Error Log Clear	Clears the Printer Error Log.
				03	Shipment Set	Clears All Jobs, All Preset Data, Parameter Initialize & Resets the Counters.
				04	LBP Fuser Reset	Clears the LBP fuser error.

F9 Mode

Service Mode	Item					Function
F9	Unit Maintenance	07	Firmware Update	00	Host Program (4MB)	Updates the firmware in the machine with the Master Firmware Card.
				01	Host Part A (2MB)	
				02	Host Part B (2MB)	
				03	PDL Board (2MB)	
				04	LAN Board (2MB)	
				05	PC → Host Program (4MB)	Updates the firmware in the machine with the Master Firmware from the PC.
		08	Firmware Backup	00	Host Program (4MB)	Creates a Backup Firmware Card of the machine's firmware.
				01	Host Part A (2MB)	
				02	Host Part B (2MB)	
		09	PC → Flash Card			Creates a Master Firmware Card using the Firmware Update Kit. A 2MB or 4MB Flash Memory Card will be required depending upon the model.
		10	Page Memory Size			Displays the page memory size (MB).
		11	Sort Memory Size			Displays the sort memory size (MB).

5.2. Service Modes (For Facsimile)

Note:

This function is available for DP-1810F Only.

5.2.1. Service Mode Table

The following service modes are provided to assist you in setting operational functions of the unit and determining the condition of the unit.

No.	Service Mode	Description
1	Function Parameter Setting	Allows changes to the function parameters (the home position, etc.).
2	RAM Edit Mode	**Factory use only.**
3	Print Parameter List / Reports	Prints the Function Parameter List, Page Memory Test, Printer Report, All Document File, Protocol Trace and Toner Order Form.
4	Modem Tests	Generates various binary, tonal and DTMF signals, by the modem.
5	Not Used	
6	RAM Initialization	Initialize RAM and restore the default value of the function parameters.
7	Not Used	
8	Check & Call	Allows input of information for Service Alert Report, Maintenance Alert Report and Toner Order Form.
9	System Maintenance	Used for Firmware Update, Firmware Backup, Parameter Restore, Parameter Backup, Transferring Firmware from the PC to the Flash Card and Sending a Received File during a fatal printer error.
10	Firmware Version	Display the Firmware Version of Host, Scanner, Printer and Modem.

5.2.2. Service Mode 1 (Function Parameter Setting)

Use the following procedure to change the function parameters.

Service Mode 1 : For DP-1810F		
Step	**Operation or Unit Condition**	**LCD Display**
1	Standby	MMM-dd-yyyy 15:00 00%
2	Press “FUNCTION” and then “7”.	SET MODE (1-4) ENTER NO. OR V Λ
3	Press “MONITOR” four times, then press “*”.	SERVICE MODE ENTER NO. OR V Λ
4	Press “1”.	PARAMETER (000-299) ENTER PARAMETER #_
5	Enter the Function Parameter Number or press “V” or “/\ “ to select the desired parameter. Ex: Changing the "ALARM STATUS" -- Enter "001" and press [SET].	PARAMETER #001 ALARM STATUS?
6	Press “START”.	ALARM STATUS:Timer 1:OFF 2:Tmr 3:CONST
7	Enter the new setting value. Ex: Enter "3" for Constant.	ALARM STATUS:Const. 1:OFF 2:Tmr 3:CONST
8	Press “START”. The new value will be stored and the next parameter will be displayed.	PARAMETER #002 STOP COMM.JRNL?
9	Repeat steps 4 through 7 to change other Function Parameters or Press “STOP” twice to return to standby.	MMM-dd-yyyy 15:00 00%

Note:

The following buttons provide these functions in the Service Mode:

"START": : The new setting value is stored in the machine.
"V” : Scroll the function parameter number down.
"/\ “ : Scroll the function parameter number up.

Function Parameter Table			
No.	**Parameter**	**Selections**	**Function**
000	MON/TEL DIAL	1 = Monitor 2 = TEL/DIAL	Selects whether the machine starts to TX automatically during On-Hook dialing. **Monitor** : Start to TX after pressing START **TEL/DIAL** : Start to TX automatically
001	ALARM STATUS	1 = OFF 2 = Timer (6 sec.) 3 = Constant	Selects the No Paper or No Toner alarm status. **OFF** : Alarm is disabled. **Timer** : Alarm will shut off after 6 seconds. **Constant** : Alarm will not stop until "STOP" is pressed or the error is cleared/ corrected.
002	STOP COMM. JRNL	1 = Off 2 = On	Selects whether the machine prompts to print the COMM. Journal when the printout condition is set to INC and STOP is pressed during communication.
003	CONTINUOUS POLL	1 = Off 2 = Stn (Tx only) 3 = Hub (Rx only)	Selects whether the Continuous Polling feature is enabled. **Stn** : Place the document(s) on the ADF or Platen, then press the assigned Program Key to store or add the documents into a polled file. (See Note 1) **Hub** : When the polling command is initiated, the machine will continuously poll originals from the remote stations until it is interrupted by pressing "STOP".
004	NUMERIC ID SET	1 = Off (will not accept) 2 = On (accepts)	Selects whether the machine accepts and allows to set or change the Numeric ID.
005	Not Used		
006	ID DISPLAY	1 = Number (Numeric ID) 2 = Chara (Character ID)	Selects the priority of displaying the ID.
007	JNL COLUMN	1 = Preset station name 2 = Received ID	Selects the contents of the ID to display on the Journal.
008	MONITOR	1 = Off 2 = On	Selects whether the Monitor is ON/OFF for monitoring fax signals. **(FOR SERVICE USE ONLY)**
009	DC LOOP	1 = Off (Normal) 2 = On (Off Hook)	Selects a false Off Hook state for back to back communication test.
010	TX LEVEL	00 = 0 dBm ~ 15 = -15 dBm	Selects the TX signal output level, 0 to -15 dBm in 1 dBm steps. (Refer to Chapter 4.3.)
011	RX LEVEL	1 = -43 dBm 2 = -38 dBm 3 = -33 dBm 4 = -48 dBm	Selects the receiving sensitivity of -33/-38/-43/-48 dBm.
012	DTMF LEVEL	00 = 0 dBm ~ 15 = -15 dBm	Selects the DTMF output level, 0 to -15 dBm in 1 dBm steps.
013	G3 RX EQL	1 = 0dB 2 = 4dB 3 = 8dB 4 = 12dB	Selects the cable equalizer for G3 reception mode, 0dB, 4dB, 8dB or 12dB.

Function Parameter Table			
No.	**Parameter**	**Selections**	**Function**
014	G3 TX EQL	1 = 0dB 2 = 4dB 3 = 8dB 4 = 12dB	Selects the cable equalizer for G3 transmission mode, 0dB, 4dB, 8dB or 12dB.
015 ~ 016	Not Used		
017	TX START	1 = 2400 bps 2 = 4800 bps 3 = 7200 bps 4 = 9600 bps 5 = TC7200 bps 6 = TC9600 bps 7 = 12000 bps 8 = 14400 bps	Selects the transmission modem start speed, 14400/ 12000/TC9600/TC7200/9600/7200/4800/2400 bps. **Note:** This parameter is applicable only when communicating with regular G3 machines. When communicating with Super G3 (V.34) machines, use Parameter No. 32.
018	RX START	1 = 2400 bps 2 = 4800 bps 3 = 7200 bps 4 = 9600 bps 5 = TC7200 bps 6 = TC9600 bps 7 = 12000 bps 8 = 14400 bps	Selects the reception modem start speed, 14400/ 12000/TC9600/TC7200/9600/7200/4800/2400 bps. **Note:** This parameter is applicable only when communicating with regular G3 machines. When communicating with Super G3 (V.34) machines, use Parameter No. 33.
019	ITU-T V.34	1 = Off 2 = On 3 = Select	Selects whether the ITU-T V.34 is Off, On or Select. **Select**: Select whether the ITU-T V.34 is Off or On, when entering Phone Book Dialing Numbers or Manual Number Dialing.
020	ITU-T ECM	1 = Off (Invalid) 2 = On (Valid)	Select the ECM mode.
021	EP TONE	1 = Off (without EP Tone) 2 = On (with EP Tone)	Selects whether to add the echo protect tone on V.29 mode. (Used when Echo Suppression is disabled.) **On** : Add **Off** : Do not add
022	SIGNAL INTERVAL	1 = 100 ms 2 = 200 ms 3 = 500 ms	Selects the time interval between the receiving signal and the transmitting signal.
023	TCF CHECK	1 = Normal (Short) 2 = Long	Selects the TCF check interval Long/Short
024	CED FREQUENCY	1 = 1080 Hz (non ITU-T) 2 = 2100 Hz	Selects the CED frequency 2100/1080 Hz
025	COMM. START-UP	1 = 1'st response 2 = 2'nd response	Selects the communication start-up condition (XMT and Polling). (Used when Echo Suppression is disabled.)
026	NON-STANDARD	1 = Off (Invalid) 2 = On (Valid)	Selects own mode (Panafax mode).
027	SHORT PROTOCOL B	1 = Off (Invalid) 2 = On (Valid)	Selects the short protocol mode.
028	SHORT PROTOCOL D	1 = Off (Invalid) 2 = On (Valid)	Selects the short protocol mode. When activated, it allows the machine to automatically store the modem speed for each Auto Dial Number.

Function Parameter Table

No.	Parameter	Selections	Function
029	REMOTE DIAGNOSTICS	1 = Off (will not accept) 2 = On (accepts)	Selects whether the machine accepts Remote Diagnostics from the service station.
030	CED & 300 bps	1 = 75 ms 2 = 1 sec	Selects the pause interval between the CED and the 300 bps signal. (Used when Echo Suppression is disabled.)
031	RTC = EOLx12	1 = Off (EOLx6) 2 = On (EOLx12)	Selects the RTC signal, EOLx6 or EOLx12.
032	V34 TX START	2400-33600bps	Selects the transmission modem start speed for V.34 communication, 33600-2400 bps.
033	V34 RX START	2400-33600bps	Selects the receiving modem start speed for V.34 communication, 33600-2400 bps.
034	V34 TX Symbol Rate	2400-3429sr	Selects the transmission symbol rate for V.34, 3429/3200/3000/2800/2400 sr. Press “V” or “/\ “ to select the symbol rate.
035	V34 RX Symbol Rate	2400-3429sr	Selects receiving symbol rate for V.34, 3429/3429/3200/3000/2800/2400 sr. Press “V” or “/\ “ to select the symbol rate.
036	Not Used		
037	PROTOCOL DISPLAY	1 = Off (not displayed) 2 = On (displayed)	Selects whether to display the modem speed during communication. (Press the Job Status Key to display)
038	Not Used		
039	FLASH TIME	5 = 50 ms ~ 100 = 1000 ms	Selects the pause interval before activating the Flash key.
040	E/F TIME (For Germany, Austria and Switzerland only)	5 = 50 ms ~ 100 = 1000 ms	Selects the pause interval before activating the Flash key.
041	PAUSE TIME	1 = 1 sec. ~ 10 = 10 sec.	Selects the pause interval from 1 sec. ~ 10 sec. for dialing through a switchboard or for international calls.
042	Not Used		
043	REDIAL INTERVAL	0 = no waiting ~ 15 = 15 minutes	Selects the redial interval from 0 to 15 minutes in 1 minute steps.
044	REDIAL COUNT	0 = no redial ~ 15 = 15 times	Selects the redial count from 0 to 15 times in 1 step intervals. **Note:** In order to comply with the requirements TBR21 in the EC countries, do not select 15 times.
045	RING DETECT COUNT	1 = 1 ring ~ 9 = 9 rings	Selects the ring detection count from 1 to 9 rings in 1 ring step intervals.
046	ON-HOOK TIME	0 = 0 sec. ~ 90 = 90 sec.	Selects the on-hook time between sequential communication calls in 1 second step intervals.
047	RESPONSE WAIT	1 = 1 sec. ~ 90 = 90 sec.	Selects the waiting interval for the response after completing the dialing.

Function Parameter Table

No.	Parameter	Selections	Function
048 049	Not Used		
050	RING DETECT MODE	1 = Normal 2 = Rough	Selects the quality of ringer detection. Use if the line signal is out of regulation, set to "Rough" so that the unit may detect the ringing signals.
051	Not Used		
052	PULSE RATE	1 = 10 pps 2 = 20 pps	Selects the dial pulse rate 10/20 pps.
053 054	Not Used		
055	BUSY TONE CHECK	1 = Off 2 = On	Selects whether to detect the Busy Tone.
056	DIAL TONE CHECK (Except for USA and Canada)	1 = Off 2 = On	Selects whether to detect dial tone before dialing the telephone number.
057	DC LOOP CHECK (Except for USA and Canada)	1 = Off (will not check) 2 = On (checks)	Selects whether the unit checks the DC Loop during communication.
058	COMM.JRNL +IMAGE	1 = Off (without image) 2 = On (with image)	Selects whether the machine prints the COMM. Journal with image.
059	CONFIDENTIAL RCV REPORT	1 = Off (does not print out) 2 = On (prints out)	Selects whether the machine prints the Confidential RCV Report.
060	VERSION	Indicates the Host software version.	
061	TX/RX//PRT/ CPY COUNTER	TX/RX/PRT/CPY	Displays the transmitted, received, total printed and copied document count.
062	PRINT COUNTER	1 = Off 2 = On	Selects whether to print in the Fax Parameter List, the counter information that is displayed in the Function Parameter No. 61.
063 ~ 067	Not Used		
068	NYSE FAX FORWARD (USA and Canada Only)	1 = Off 2 = On	Selects whether the machine will forward the incoming and outgoing faxes to a specified station. **Note:** Once this parameter is activated, Fax Forwarding via Fax Parameter 054 is automatically disabled, an Access Code of "0000" is automatically assigned and Fax Parameter 038 has a new setting added called "NYSE".
069	NYSE LOCAL PRINT (USA and Canada Only)	1 = INC 2 = ON (Always)	Selects the printing condition for the incoming faxes after FAX Forwarding. **INC.** : Prints only if FAX Forwarding fails. **ON** : Always prints.

Function Parameter Table			
No.	**Parameter**	**Selections**	**Function**
070	LINE ERROR	1 = 128 lines 2 = 256 lines 3 = 512 lines 4 = 1024 lines 5 = 2048 lines 6 = Off (will not disconnect line)	1. Selects the line disconnect condition during reception. If the number of line errors exceed this setting, the unit will disconnect the line. 2. Selects the transmit condition of RTP/PIP or RTN/PIN. (Available if No.73 Error Detect is set to "LINES") (See Note 1)
071	TOTAL ERROR	1 = 5% 2 = 10% 3 = 15% 4 = 20%	Selects the transmit condition of RTP/PIP or RTN/PIN. (Available if No.73 Error Detect is set to "RATE".) (See Note 2)
072	CONTINUOUS ERROR	1 = Off (unlimited) 2 = 3 lines/STD 3 = 6 lines/STD 4 = 12 lines/STD	Selects the continuous total error criteria of Off/3/6 or 12 lines in Standard mode. If continuous total error exceeds this setting, the unit will transmit RTN/PIN. (Available if No.73 Error Detect is set to "RATE".)
073	ERROR DETECT	1 = Lines 2 = Rate	Selects the error detect condition Lines/Rate.
074	RTN RECEIVE	1 = Disconnect 2 = Continue	Selects whether to disconnect the phone line or continue when "RTN" is received.
075	CODING	1 = MH (MH only) 2 = MR (MH or MR) 3 = MMR (MH or MR or MMR) 4 = JBIG	Selects the coding scheme.
076	BATCH TX (USA and Canada Only)	1 = Off 2 = On	Selects whether the batch transmission is available.
077	RX JAM LENGTH	1 = Off (unlimited) 2 = 2 m 3 = 8 m	Selects the maximum length of a received document that can be printed.
078 079	Not Used		
080	ORIG. TOP FEED	-5.0 mm ~ +5.0 mm	Adjusts the distance between the scanning sensor ON position and the scanning start position.
081	ORIG. END FEED	-5.0 mm ~ +5.0 mm	Adjusts the distance between the scanning sensor OFF position and the scanning end position.
082	JAM LENGTH	1 = 1 m 2 = 2 m 3 = 8 m 4 = Unlimited	Selects the maximum length of the original that can be scanned.
083	Not Used		
084	LINE AS NO PAPER	1 = Ring (ring) 2 = Busy (keep line busy)	Selects whether to ring or send a busy tone to the remote station when the recording paper runs out or the unit cannot receive because of any trouble.
085	Not Used		
086	REDUCTION FINE	1 = Off 2 = On	Selects whether the resolution is preset to Fine, when sending with reduction B4→A4.

Function Parameter Table

No.	Parameter	Selections	Function
087	DARKER LEVEL	0 = Lightest Contrast ~ 15 = Darkest Contrast	Selects the contrast level. 0← →15 Lightest← →Darkest
088	NORMAL LEVEL		
089	LIGHTER LEVEL		
090 091	Not Used		
092	SMOOTHING	1 = Off 2 = On	Selects whether the smoothing function is available.
093 ~ 109	Not Used		
110	MAC ADDRESS		Indicates the MAC Address.
111	LAN I/F ROM VER		Indicates the LAN I/F Firmware version.
112	INSERT EMAIL TXT	1 = Off 2 = On	Selects whether the Text Template (email message) is programmable and added on all email sent in the message body above the top line of text. (Up to 40 characters Programmed in the User Parameters.) **Note:** After enabling this feature, aside from entering the text in the User Parameters, it also has to be activated in each Auto Dial Number before it will take effect. It does not work for Direct Dialed Numbers.
113	Not Used		
114	SYMBOL SET	1 = Standard 2 = Extended	Selects whether the extended symbols other than "%" is available for Internet Parameters entry.
115	TIME ZONE	1 = Scroll 2 = Direct	Selects the setting method for Time Zone. **Scroll** : Allows using "Scroll Keys" to scroll through the Time Zone Table. **Direct** : Allows you to input the Time Zone directly, (*) key to be used as a switch between +/-.
116	OVERWRITE WARNING	1 = Yes 2 = No	Selects whether the Overwrite Warning is included on the Internet FAX Result Receipt when programming the Auto Dialer via email.
117 ~ 129	Not Used		
130	BUSY-ACK TIMING	• In Busy • After Busy • While Busy	Selects the signal timing between the BUSY and ACK signal in Printer Interface Mode.
131	CMD RCV GRD TIMER	1 min. ~ 15 min.	Selects the Guard Timer between each GDI Command in Printer Interface Mode.
132	PRT DATA TIMER	1 min. ~ 15 min.	Selects the Guard Timer between each GDI Data Frame in Printer Interface Mode.
133 ~ 134	Not Used		

Function Parameter Table			
No.	**Parameter**	**Selections**	**Function**
135	JOB END TIMER	1 sec. ~ 999 sec.	Selects the Guard Timer while printing data with the PDL Printer Driver ver. 6.
136 ~ 159	Not Used		
160	VERSION	Indicates the ROM version on the FRM PC Board.	PDL Firmware version
161 ~ 199	Not Used		

Note 1: Continuous Polling (Station Mode)
This feature allows you to store or add documents into a polled file in memory.

To enable the Continuous Polling feature set Function Parameter No. 003 to “2:Station”. The last Program Key will be assigned with the “Store 4 Poll” Key name automatically and cannot be changed.

To prepare the document(s) to be polled, simply place the document(s) on the ADF or Platen and then press the Program Key to store or add the document(s) into a polled file.

(Note: If a regular polled file is stored in memory, the Program Key for Continuous Polling will not be accepted.)

Note 2: Function Parameter No. 070 (Line Error)-Transmit condition of RTP/PIP or RTN/PIN

Signal	**Setting**					
	1:128	**2:256**	**3:512**	**4:1024**	**5:2048**	**6:Off**
MCF/PIP	0-31	0-63	0-127	0-255	0-511	Always
RTP/PIP	32-63	64-127	128-255	256-511	512-1023	-
RTN/PIN	64-127	128-255	256-511	512-1023	1024-2047	-

Note 3: Function Parameter No. 071 (Total Error)-Transmit condition of RTP/PIP or RTN/PIN

Signal	**Setting**			
	1:5%	**2:10%**	**3:15%**	**4:20%**
MCF/PIP	0-2	0-4	0-7	0-9
RTP/PIP	3-4	5-9	8-14	10-19
RTN/PIN	5-	10-	15-	20-

Note 4: The default setting of parameters depends on the country’s specifications or regulations. Print the Function Parameter List to confirm the default settings.

5.2.3. Service Mode 3 (Printout of Lists, Reports and Test Results)

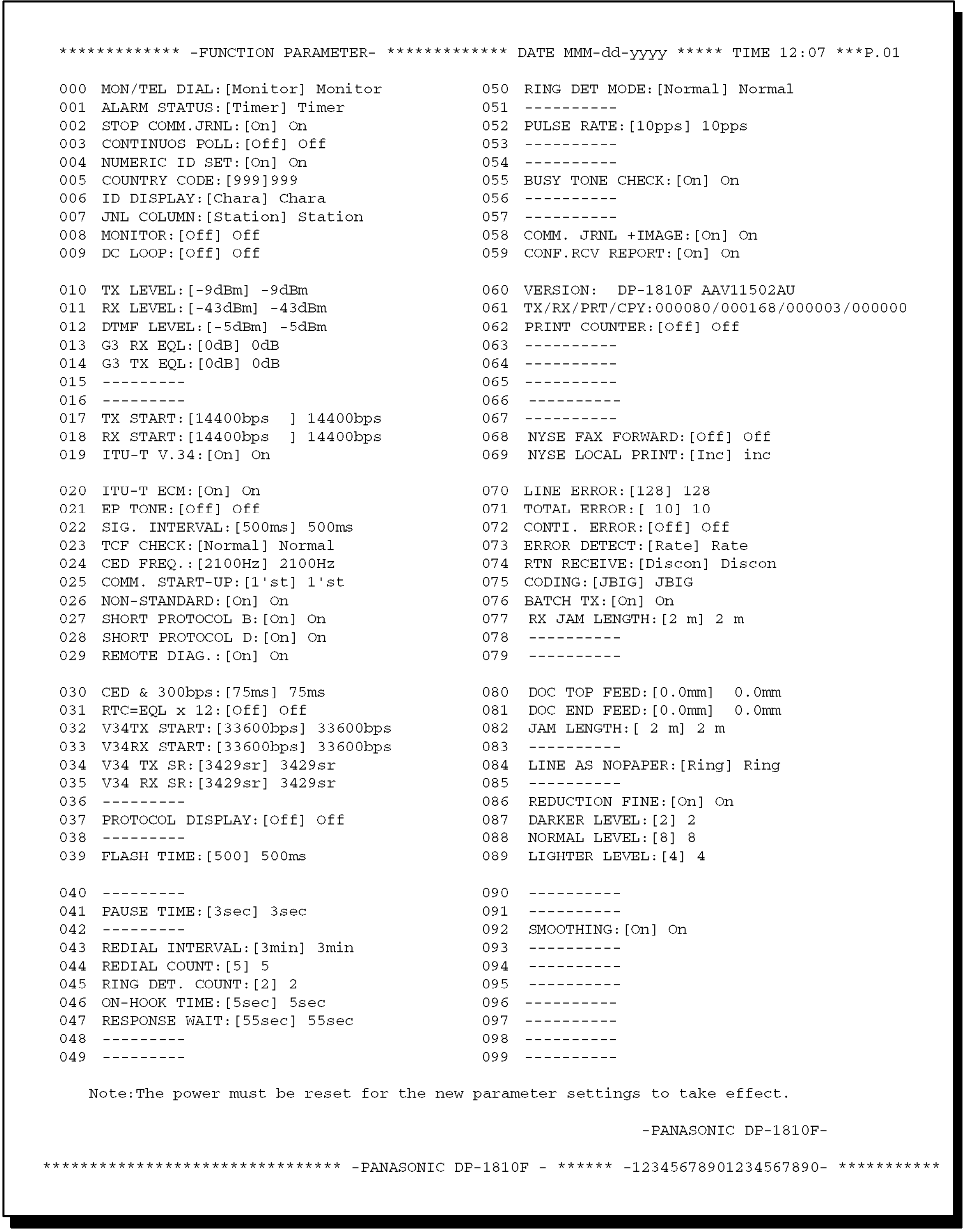
From this Service Mode you can print the Function Parameter List, Page Memory Test, Printer Report, All Document File, Protocol Trace and the Toner Order Form.

5.2.3.1. Function Parameter List

A list of all Function Parameters can be printed by the following procedure.

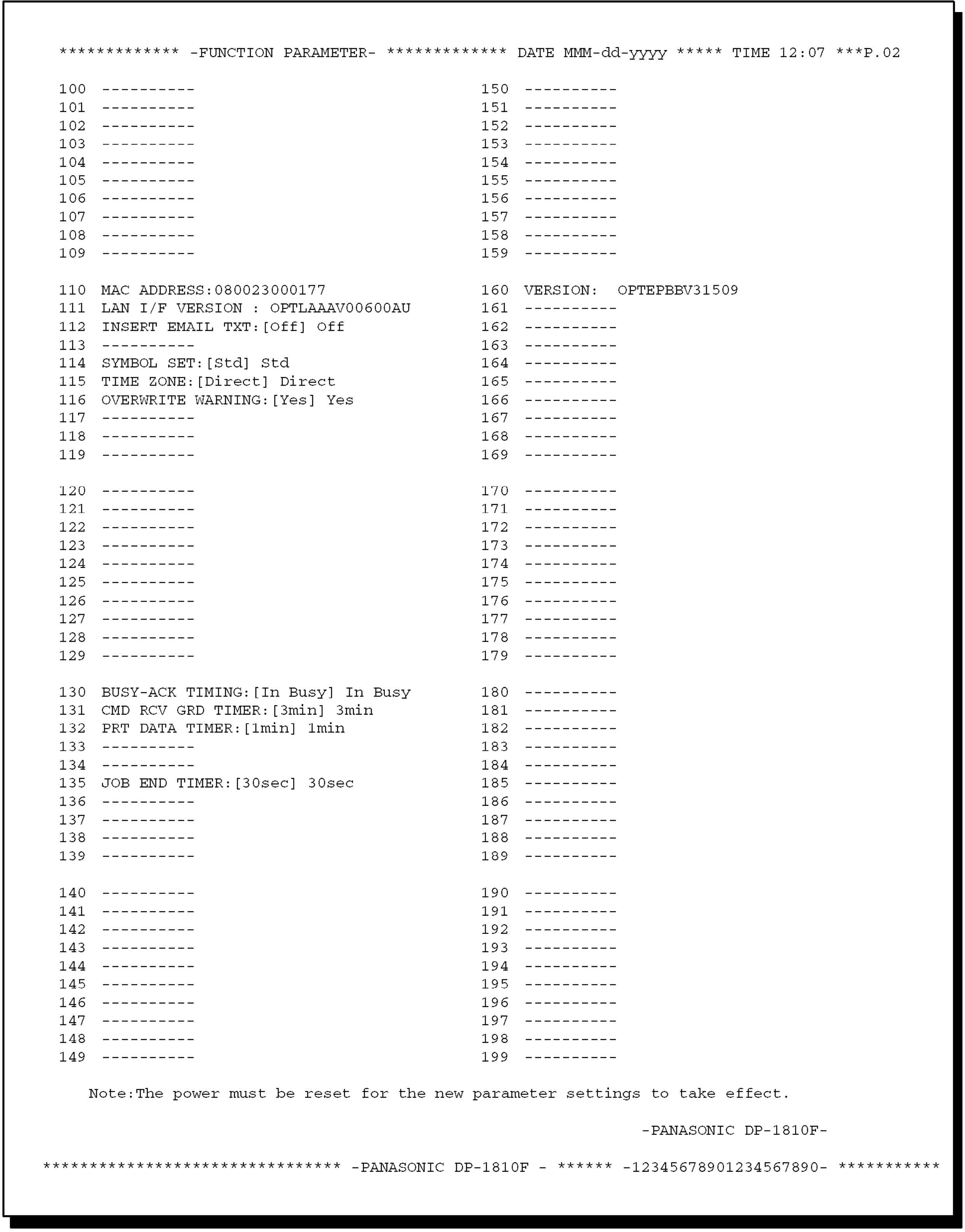
Service Mode 3 for DP-1810F - Function Parameter List		
Step	**Operation or Unit Condition**	**LCD Display**
1	Standby	MMM-dd-yyyy 15:00 00%
2	Press “FUNCTION” and then “7”.	SET MODE (1-4) ENTER NO. OR V Λ
3	Press “MONITOR” four times, then press “*”.	SERVICE MODE ENTER NO. OR V Λ
4	Press “3”. Use “V” or “/\” to scroll to the desired printout.	PRINTOUT (1-7) 1:FUNC. PARAM. LIST
5	Press “START”.	* PRINTING * FUNC. PARAMETER LIST
6	After printing is completed, the unit returns to the display in step 3.	SERVICE MODE ENTER NO. OR V Λ
7	Press “STOP” to return to standby.	MMM-dd-yyyy 15:00 00%

Function Parameter List (Sample)



```
   ************* -FUNCTION PARAMETER- ************* DATE MMM-dd-yyyy ***** TIME 12:07 ***P.01

   000 MON/TEL DIAL:[Monitor] Monitor          050 RING DET MODE:[Normal] Normal
   001 ALARM STATUS:[Timer] Timer              051 ----------
   002 STOP COMM.JRNL:[On] On                  052 PULSE RATE:[10pps] 10pps
   003 CONTINUOS POLL:[Off] Off                053 ----------
   004 NUMERIC ID SET:[On] On                  054 ----------
   005 COUNTRY CODE:[999]999                   055 BUSY TONE CHECK:[On] On
   006 ID DISPLAY:[Chara] Chara                056 ----------
   007 JNL COLUMN:[Station] Station            057 ----------
   008 MONITOR:[Off] Off                       058 COMM. JRNL +IMAGE:[On] On
   009 DC LOOP:[Off] Off                       059 CONF.RCV REPORT:[On] On

   010 TX LEVEL:[-9dBm] -9dBm                  060 VERSION:  DP-1810F AAV11502AU
   011 RX LEVEL:[-43dBm] -43dBm                061 TX/RX/PRT/CPY:000080/000168/000003/000000
   012 DTMF LEVEL:[-5dBm] -5dBm                062 PRINT COUNTER:[Off] Off
   013 G3 RX EQL:[0dB] 0dB                     063 ----------
   014 G3 TX EQL:[0dB] 0dB                     064 ----------
   015 ---------                               065 ----------
   016 ---------                               066  ----------
   017 TX START:[14400bps  ] 14400bps          067 ----------
   018 RX START:[14400bps  ] 14400bps          068  NYSE FAX FORWARD:[Off] Off
   019 ITU-T V.34:[On] On                      069  NYSE LOCAL PRINT:[Inc] inc

   020 ITU-T ECM:[On] On                       070 LINE ERROR:[128] 128
   021 EP TONE:[Off] Off                       071 TOTAL ERROR:[ 10] 10
   022 SIG. INTERVAL:[500ms] 500ms             072 CONTI. ERROR:[Off] Off
   023 TCF CHECK:[Normal] Normal               073 ERROR DETECT:[Rate] Rate
   024 CED FREQ.:[2100Hz] 2100Hz               074 RTN RECEIVE:[Discon] Discon
   025 COMM. START-UP:[1'st] 1'st              075 CODING:[JBIG] JBIG
   026 NON-STANDARD:[On] On                    076 BATCH TX:[On] On
   027 SHORT PROTOCOL B:[On] On                077  RX JAM LENGTH:[2 m] 2 m
   028 SHORT PROTOCOL D:[On] On                078  ----------
   029 REMOTE DIAG.:[On] On                    079  ----------

   030 CED & 300bps:[75ms] 75ms                080  DOC TOP FEED:[0.0mm]  0.0mm
   031 RTC=EQL x 12:[Off] Off                  081  DOC END FEED:[0.0mm]  0.0mm
   032 V34TX START:[33600bps] 33600bps         082  JAM LENGTH:[ 2 m] 2 m
   033 V34RX START:[33600bps] 33600bps         083  ----------
   034 V34 TX SR:[3429sr] 3429sr               084  LINE AS NOPAPER:[Ring] Ring
   035 V34 RX SR:[3429sr] 3429sr               085  ----------
   036 ---------                               086  REDUCTION FINE:[On] On
   037 PROTOCOL DISPLAY:[Off] Off              087  DARKER LEVEL:[2] 2
   038 ---------                               088  NORMAL LEVEL:[8] 8
   039 FLASH TIME:[500] 500ms                  089  LIGHTER LEVEL:[4] 4

   040 ---------                               090  ----------
   041 PAUSE TIME:[3sec] 3sec                  091  ----------
   042 ---------                               092  SMOOTHING:[On] On
   043 REDIAL INTERVAL:[3min] 3min             093  ----------
   044 REDIAL COUNT:[5] 5                      094  ----------
   045 RING DET. COUNT:[2] 2                   095  ----------
   046 ON-HOOK TIME:[5sec] 5sec                096 ----------
   047 RESPONSE WAIT:[55sec] 55sec             097 ----------
   048 ---------                               098 ----------
   049 ---------                               099 ----------

      Note:The power must be reset for the new parameter settings to take effect.

                                                                 -PANASONIC DP-1810F-

 ******************************** -PANASONIC DP-1810F - ****** -12345678901234567890- ***********
```

Function Parameter List (Sample)



```
  ************* -FUNCTION PARAMETER- ************* DATE MMM-dd-yyyy ***** TIME 12:07 ***P.02

  100 ----------                               150 ----------
  101 ----------                               151 ----------
  102 ----------                               152 ----------
  103 ----------                               153 ----------
  104 ----------                               154 ----------
  105 ----------                               155 ----------
  106 ----------                               156 ----------
  107 ----------                               157 ----------
  108 ----------                               158 ----------
  109 ----------                               159 ----------

  110 MAC ADDRESS:080023000177                  160 VERSION:  OPTEPBBV31509
  111 LAN I/F VERSION : OPTLAAAV00600AU         161 ----------
  112 INSERT EMAIL TXT:[Off] Off               162 ----------
  113 ----------                               163 ----------
  114 SYMBOL SET:[Std] Std                     164 ----------
  115 TIME ZONE:[Direct] Direct                165 ----------
  116 OVERWRITE WARNING:[Yes] Yes              166 ----------
  117 ----------                               167 ----------
  118 ----------                               168 ----------
  119 ----------                               169 ----------

  120 ----------                               170 ----------
  121 ----------                               171 ----------
  122 ----------                               172 ----------
  123 ----------                               173 ----------
  124 ----------                               174 ----------
  125 ----------                               175 ----------
  126 ----------                               176 ----------
  127 ----------                               177 ----------
  128 ----------                               178 ----------
  129 ----------                               179 ----------

  130 BUSY-ACK TIMING:[In Busy] In Busy         180 ----------
  131 CMD RCV GRD TIMER:[3min] 3min            181 ----------
  132 PRT DATA TIMER:[1min] 1min               182 ----------
  133 ----------                               183 ----------
  134 ----------                               184 ----------
  135 JOB END TIMER:[30sec] 30sec              185 ----------
  136 ----------                               186 ----------
  137 ----------                               187 ----------
  138 ----------                               188 ----------
  139 ----------                               189 ----------

  140 ----------                               190 ----------
  141 ----------                               191 ----------
  142 ----------                               192 ----------
  143 ----------                               193 ----------
  144 ----------                               194 ----------
  145 ----------                               195 ----------
  146 ----------                               196 ----------
  147 ----------                               197 ----------
  148 ----------                               198 ----------
  149 ----------                               199 ----------

     Note:The power must be reset for the new parameter settings to take effect.

                                                              -PANASONIC DP-1810F-

******************************** -PANASONIC DP-1810F - ****** -12345678901234567890- ***********
```

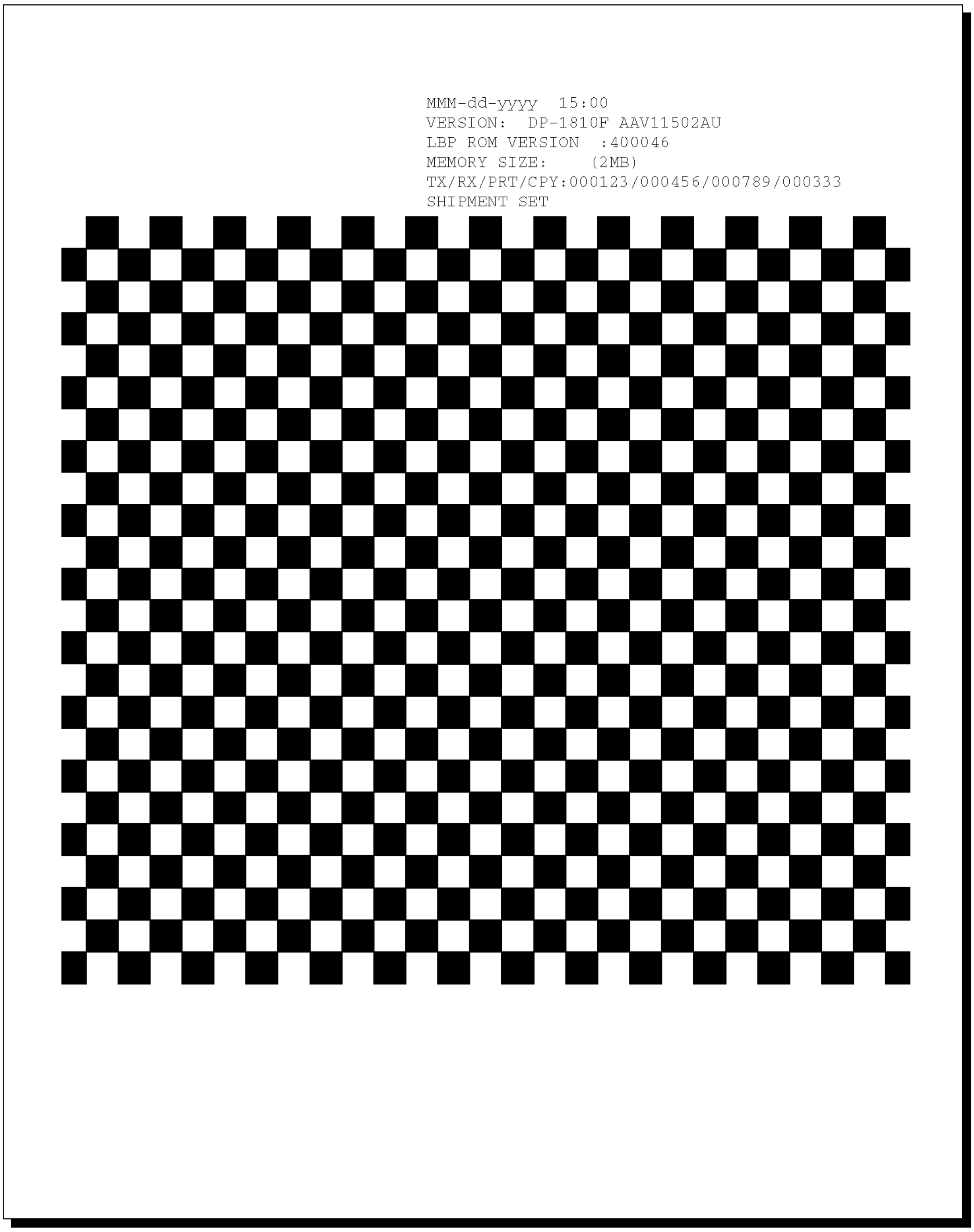
Note:

1. [ ] - Factory Default
2. The contents of the Function Parameter List may vary depending on the country’s regulations.
3. “ * ” mark will be shown on the left side of number when setting was changed from default.

5.2.3.2. Page Memory Test

A test pattern prints out for checking the page memory (IC120 and IC121 on the SC PCB) and printer mechanism using the following procedure.

Service Mode 3 for DP-1810F - Page Memory Test		
Step	**Operation or Unit Condition**	**LCD Display**
1	Standby	`MMM-dd-yyyy 15:00` `00%`
2	Press “FUNCTION” and then “7”.	`SET MODE      (1-4)` `ENTER NO. OR V Λ`
3	Press “MONITOR” four times, then press “*”.	`SERVICE MODE` `ENTER NO. OR V Λ`
4	Press “3”. Use “V” or “/\“ to scroll to the desired printout.	`PRINTOUT (1-7)` `1:FUNC. PARAM. LIST`
5	Press “3” and “START”.	`* PRINTING *` `PAGE MEMORY TEST`
6	After printing is completed, the unit returns to the display in step 3.	`SERVICE MODE` `ENTER NO. OR V Λ`
7	Press “STOP” to return to standby.	`MMM-dd-yyyy 15:00` `00%`



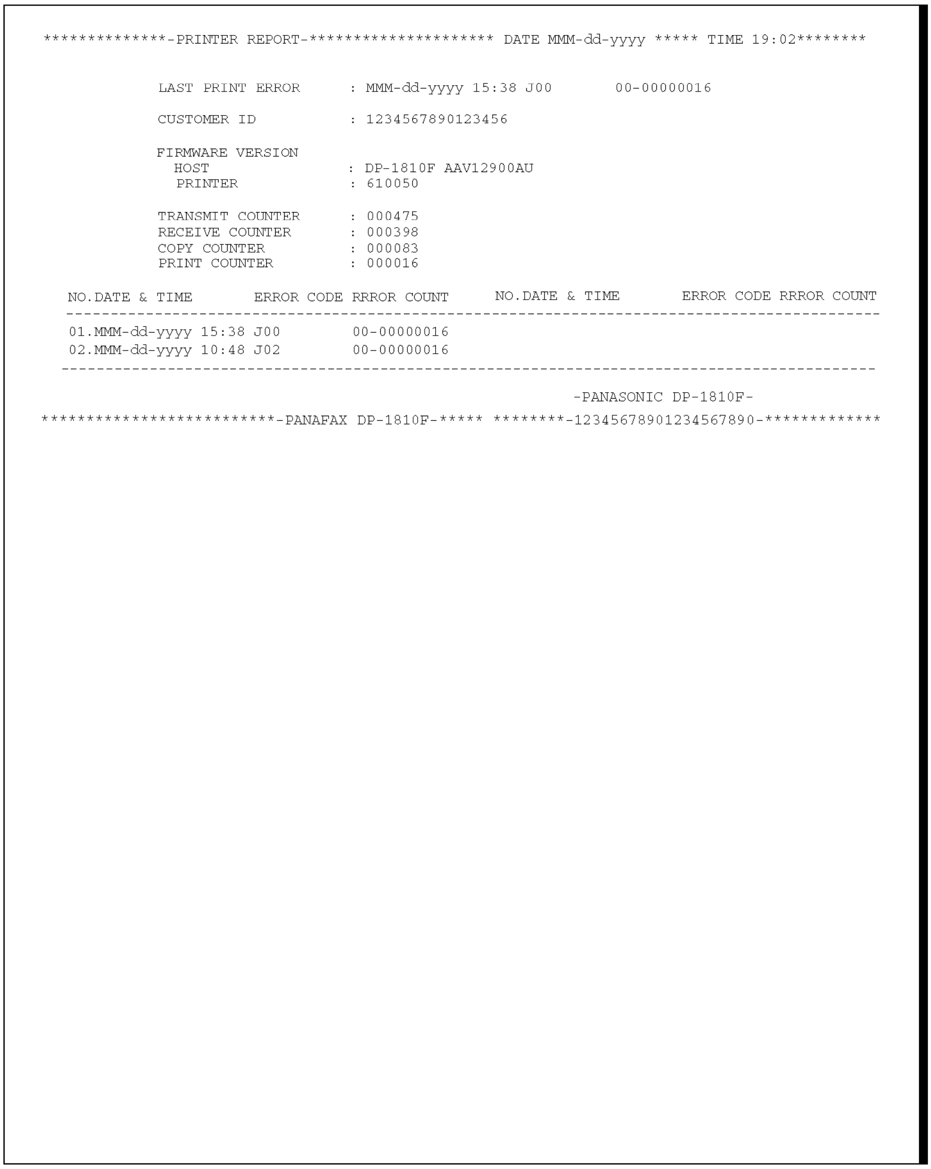
```
MMM-dd-yyyy  15:00
VERSION:  DP-1810F AAV11502AU
LBP ROM VERSION  :400046
MEMORY SIZE:    (2MB)
TX/RX/PRT/CPY:000123/000456/000789/000333
SHIPMENT SET
```

5.2.3.3. Printer Report

All printer errors are logged on the Printer Report which can be printed by the following procedure.

Service Mode 3 for DP-1810F - Printer Report

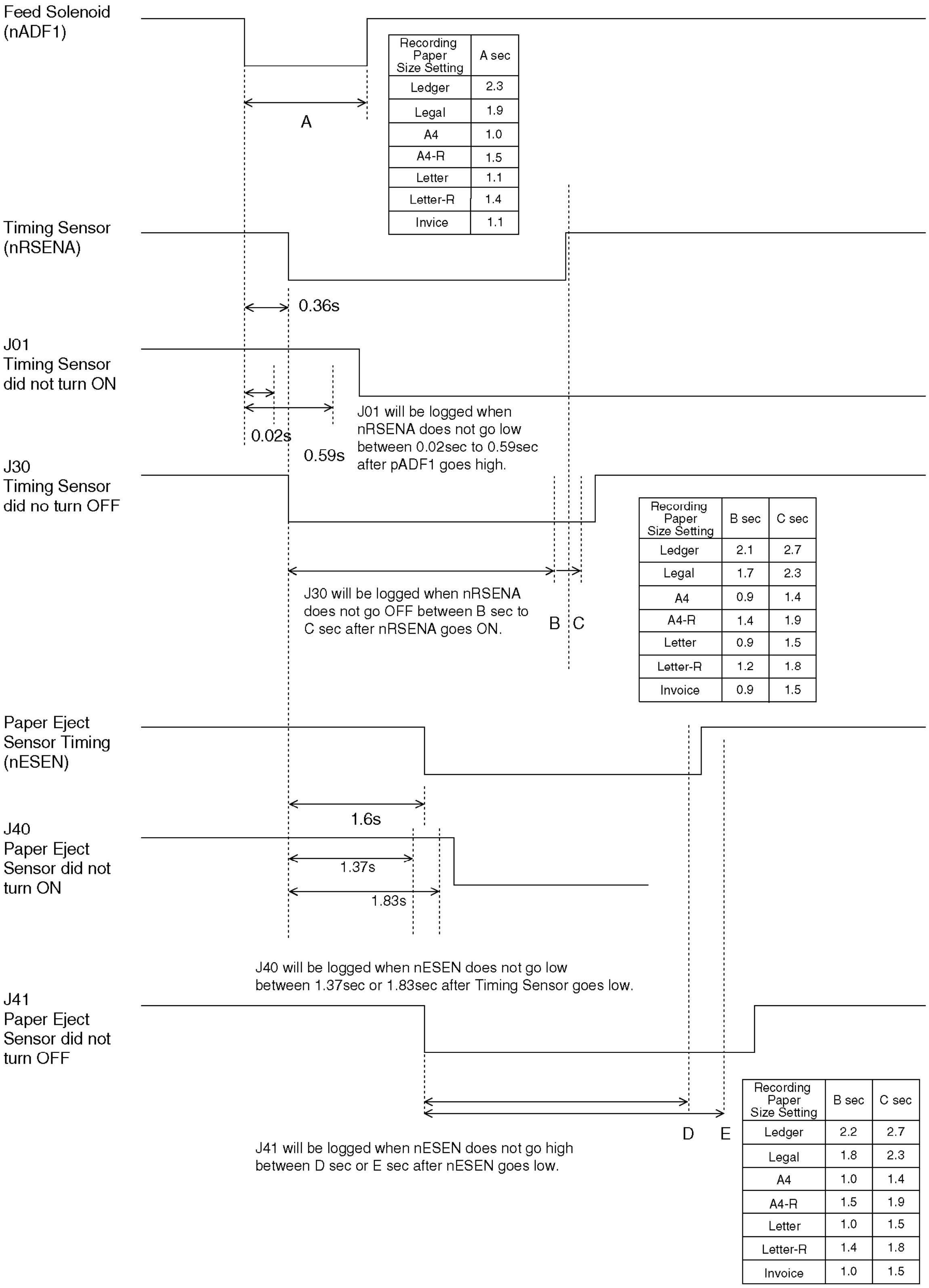
Step	Operation or Unit Condition	LCD Display
1	Standby	MMM-dd-yyyy 15:00 00%
2	Press “FUNCTION” and then “7”.	SET MODE (1-4) ENTER NO. OR V Λ
3	Press “MONITOR” four times, then press “*”.	SERVICE MODE ENTER NO. OR V Λ
4	Press “3”. Use “V” or “/\“ to scroll to the desired printout.	PRINTOUT (1-7) 1:FUNC. PARAM. LIST
5	Press “4” and “START”.	* PRINTING * PRINTER REPORT
6	After printing is completed, the unit returns to the display in step 3.	SERVICE MODE ENTER NO. OR V Λ
7	Press “STOP” to return to standby.	MMM-dd-yyyy 15:00 00%



```
**************-PRINTER REPORT-********************* DATE MMM-dd-yyyy ***** TIME 19:02********


             LAST PRINT ERROR      : MMM-dd-yyyy 15:38 J00       00-00000016

             CUSTOMER ID           : 1234567890123456

             FIRMWARE VERSION
               HOST                : DP-1810F AAV12900AU
               PRINTER             : 610050

             TRANSMIT COUNTER      : 000475
             RECEIVE COUNTER       : 000398
             COPY COUNTER          : 000083
             PRINT COUNTER         : 000016

   NO.DATE & TIME       ERROR CODE RRROR COUNT     NO.DATE & TIME       ERROR CODE RRROR COUNT
   ------------------------------------------------------------------------------------------
   01.MMM-dd-yyyy 15:38 J00        00-00000016
   02.MMM-dd-yyyy 10:48 J02        00-00000016
  ------------------------------------------------------------------------------------------

                                                            -PANASONIC DP-1810F-
**************************-PANAFAX DP-1810F-***** ********-12345678901234567890-*************
```

1. **Printer Error Detail Explanation**

Recording Paper Jam Detection (From 1st Tray to Inner Tray 1)


Feed Solenoid
(nADF1)
A
Timing Sensor
(nRSENA)
0.36s
J01
Timing Sensor
did not turn ON
0.02s
0.59s
J30
Timing Sensor
did no turn OFF
B
C
Paper Eject
Sensor Timing
(nESEN)
1.6s
J40
Paper Eject
Sensor did not
turn ON
1.37s
1.83s
J41
Paper Eject
Sensor did not
turn OFF
D
E

Recording Paper Size Setting	A sec
Ledger	2.3
Legal	1.9
A4	1.0
A4-R	1.5
Letter	1.1
Letter-R	1.4
Invice	1.1

J01 will be logged when nRSENA does not go low between 0.02sec to 0.59sec after pADF1 goes high.

J30 will be logged when nRSENA does not go OFF between B sec to C sec after nRSENA goes ON.

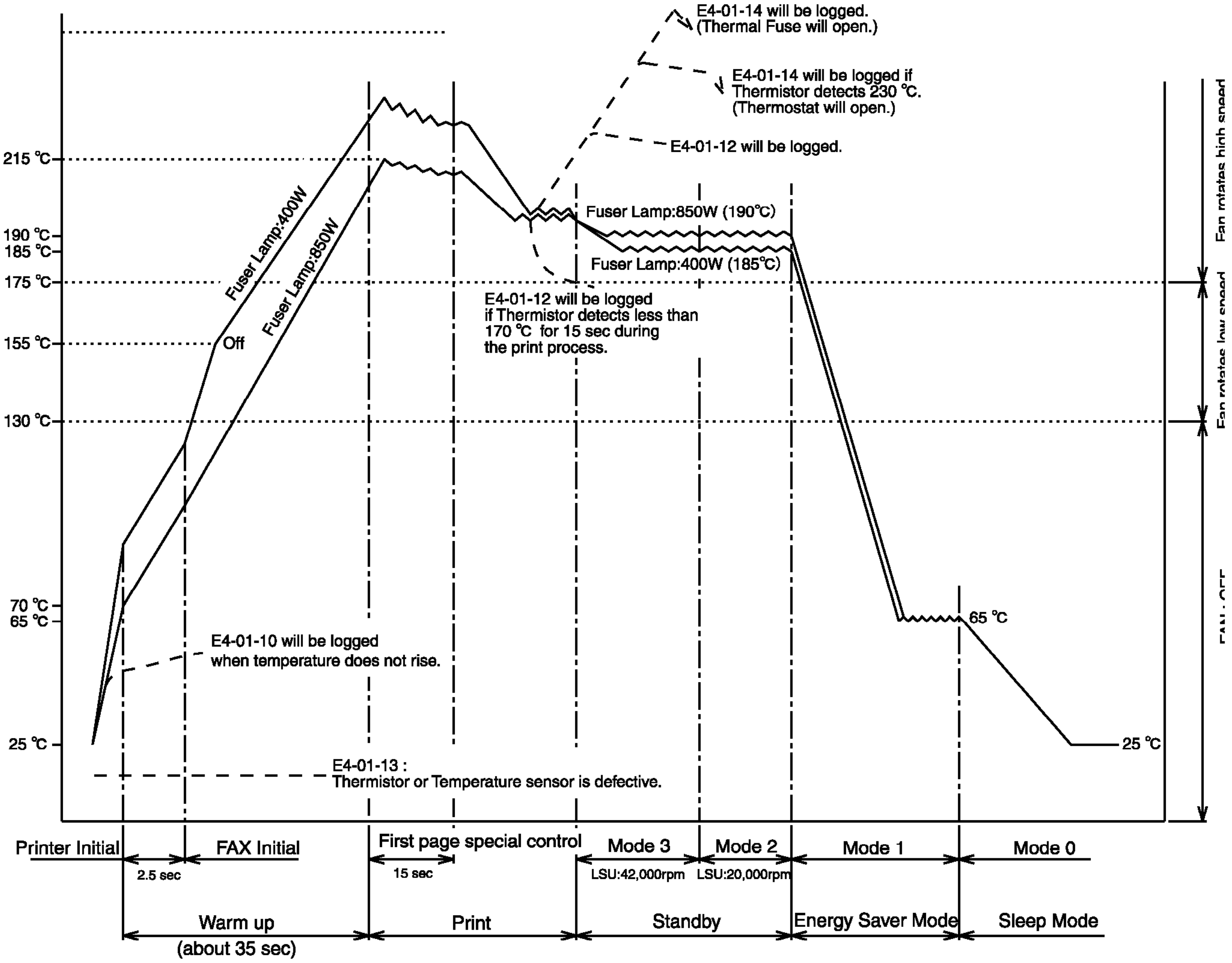
Recording Paper Size Setting	B sec	C sec
Ledger	2.1	2.7
Legal	1.7	2.3
A4	0.9	1.4
A4-R	1.4	1.9
Letter	0.9	1.5
Letter-R	1.2	1.8
Invoice	0.9	1.5

J40 will be logged when nESEN does not go low between 1.37sec or 1.83sec after Timing Sensor goes low.

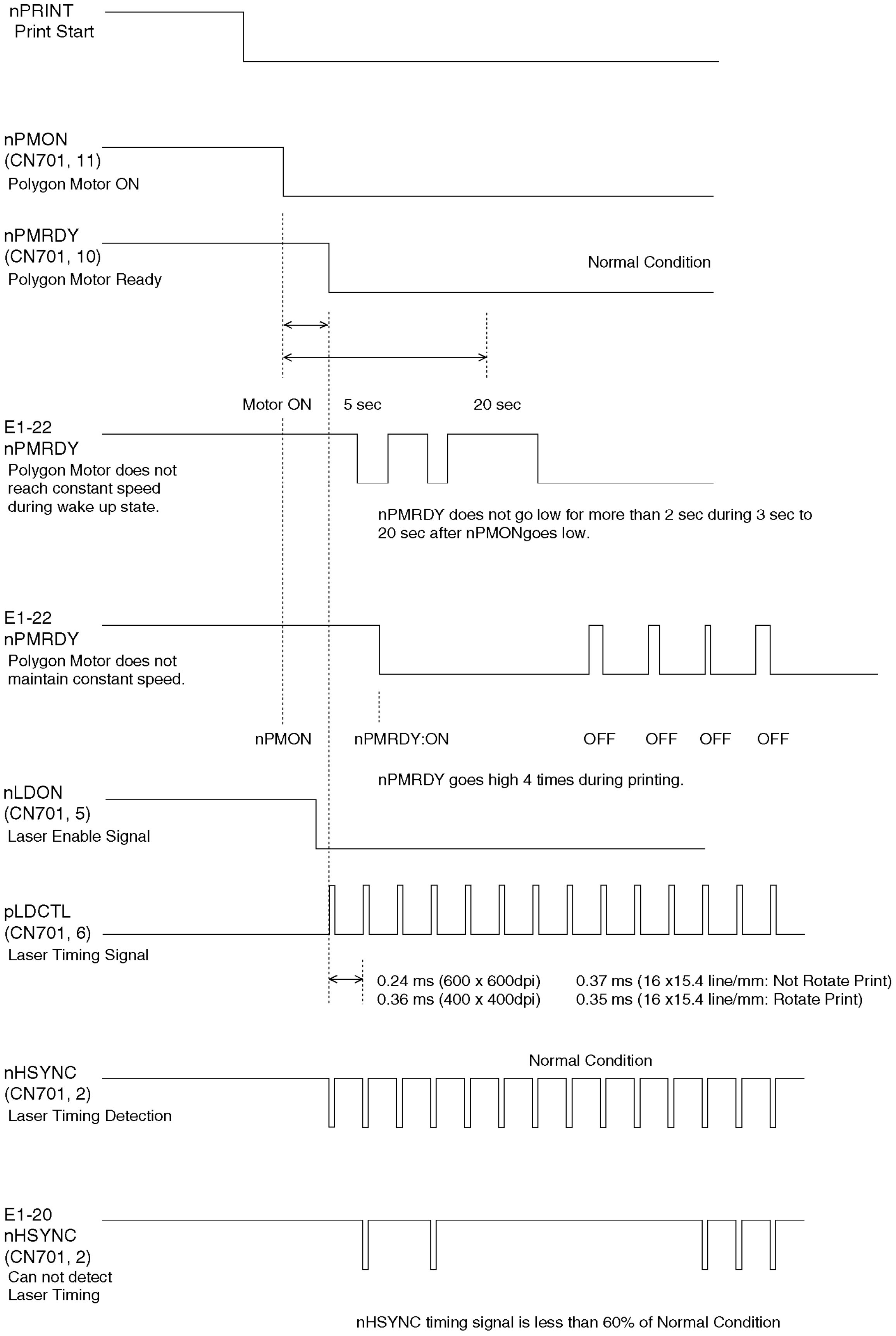
J41 will be logged when nESEN does not go high between D sec or E sec after nESEN goes low.

Recording Paper Size Setting	B sec	C sec
Ledger	2.2	2.7
Legal	1.8	2.3
A4	1.0	1.4
A4-R	1.5	1.9
Letter	1.0	1.5
Letter-R	1.4	1.8
Invoice	1.0	1.5

Fuser Error Detection



LSU Error Detection


nPRINT
Print Start
nPMON
(CN701, 11)
Polygon Motor ON
nPMRDY
(CN701, 10)
Polygon Motor Ready
Normal Condition
Motor ON
5 sec
20 sec
E1-22
nPMRDY
Polygon Motor does not reach constant speed during wake up state.
E1-22
nPMRDY
Polygon Motor does not maintain constant speed.
nPMON
nPMRDY:ON
OFF
OFF
OFF
OFF
nLDON
(CN701, 5)
Laser Enable Signal
pLDCTL
(CN701, 6)
Laser Timing Signal
0.24 ms (600 x 600dpi)
0.36 ms (400 x 400dpi)
0.37 ms (16 x15.4 line/mm: Not Rotate Print)
0.35 ms (16 x15.4 line/mm: Rotate Print)
Normal Condition
nHSYNC
(CN701, 2)
Laser Timing Detection
E1-20
nHSYNC
(CN701, 2)
Can not detect
Laser Timing

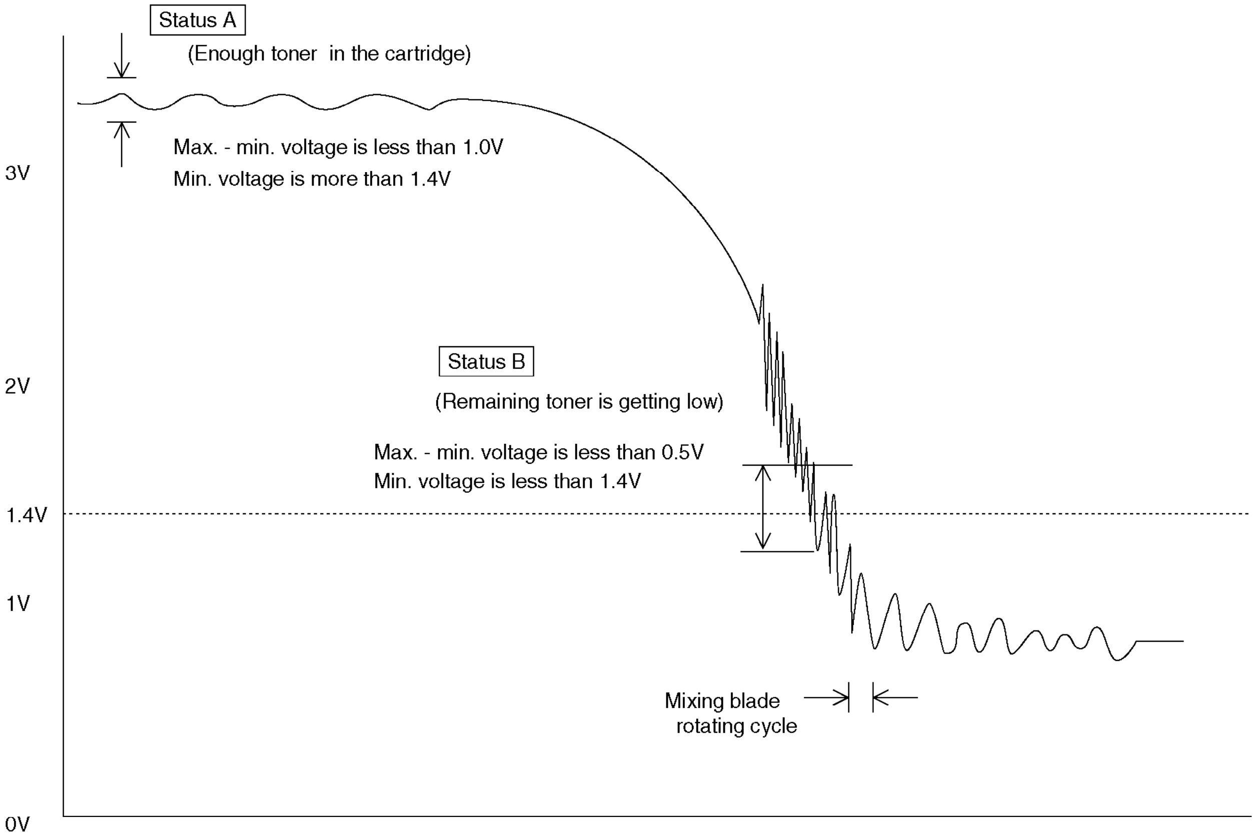
nPMRDY does not go low for more than 2 sec during 3 sec to 20 sec after nPMONgoes low.

nPMRDY goes high 4 times during printing.

nHSYNC timing signal is less than 60% of Normal Condition

Out of Toner Detection

Toner Sensor Output Signal



Toner Sensor output may change when the mixing blade passes above the Toner Sensor. Therefore the output signal has a max. voltage and min. voltage during mixing blade rotation cycle (2.1 sec.).

E043 (U13)

If the unit detects Status B, 10 times during printing, the machine recognizes that the remaining toner is low and the display shows "REPLACE TONER CARTRIDGE".

E041 (U13)

After detecting E043 and the LBP Print Available Counter Value reaches "0" (after 300 pages are printed), the unit logs E041 (OUT OF TONER).

E45 (U13)

If the Waste Toner Box is not installed, the unit logs E045 and displays “NO WASTE TONER BOX”.

5.2.3.4. All Document Files

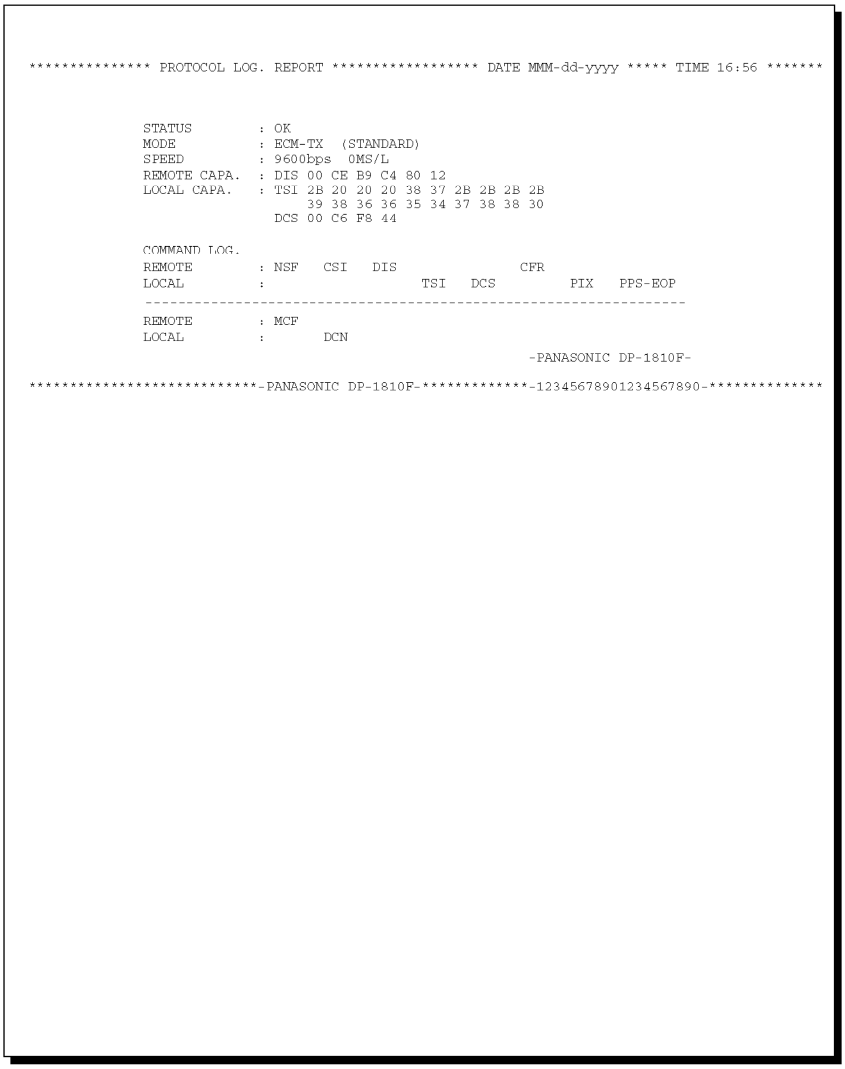
Print the document files from the Flash Memory.

Service Mode 3 for DP-1810F - All Document Files		
Step	**Operation or Unit Condition**	**LCD Display**
1	Standby	MMM-dd-yyyy 15:00 00%
2	Press “FUNCTION” and then “7”.	SET MODE (1-4) ENTER NO. OR V Λ
3	Press “MONITOR” four times, then press “*”.	SERVICE MODE ENTER NO. OR V Λ
4	Press “3”. Use “V” or “/\ “ to scroll to the desired printout.	PRINTOUT (1-7) 1:FUNC. PARAM. LIST
5	Press “5” and “START”.	* PRINTING * ALL DOCUMENT FILES
6	After printing is completed, the unit returns to the display in step 3.	SERVICE MODE ENTER NO. OR V Λ
7	Press “STOP” to return to standby.	MMM-dd-yyyy 15:00 00%

5.2.3.5. Protocol Trace

Print a Protocol Trace Report for the previous communication.

Service Mode 3 for DP-1810F - Protocol Trace		
Step	**Operation or Unit Condition**	**LCD Display**
1	Standby	MMM-dd-yyyy 15:00 00%
2	Press “FUNCTION” and then “7”.	SET MODE (1-4) ENTER NO. OR V Λ
3	Press “MONITOR” four times, then press “*”.	SERVICE MODE ENTER NO. OR V Λ
4	Press “3”. Use “V” or “/\ “ to scroll to the desired printout.	PRINTOUT (1-7) 1:FUNC. PARAM. LIST
5	Press “6” and “START”.	* PRINTING * PROTOCOL TRACE
6	After printing is completed, the unit returns to the display in step 3.	SERVICE MODE ENTER NO. OR V Λ
7	Press “STOP” to return to standby.	MMM-dd-yyyy 15:00 00%



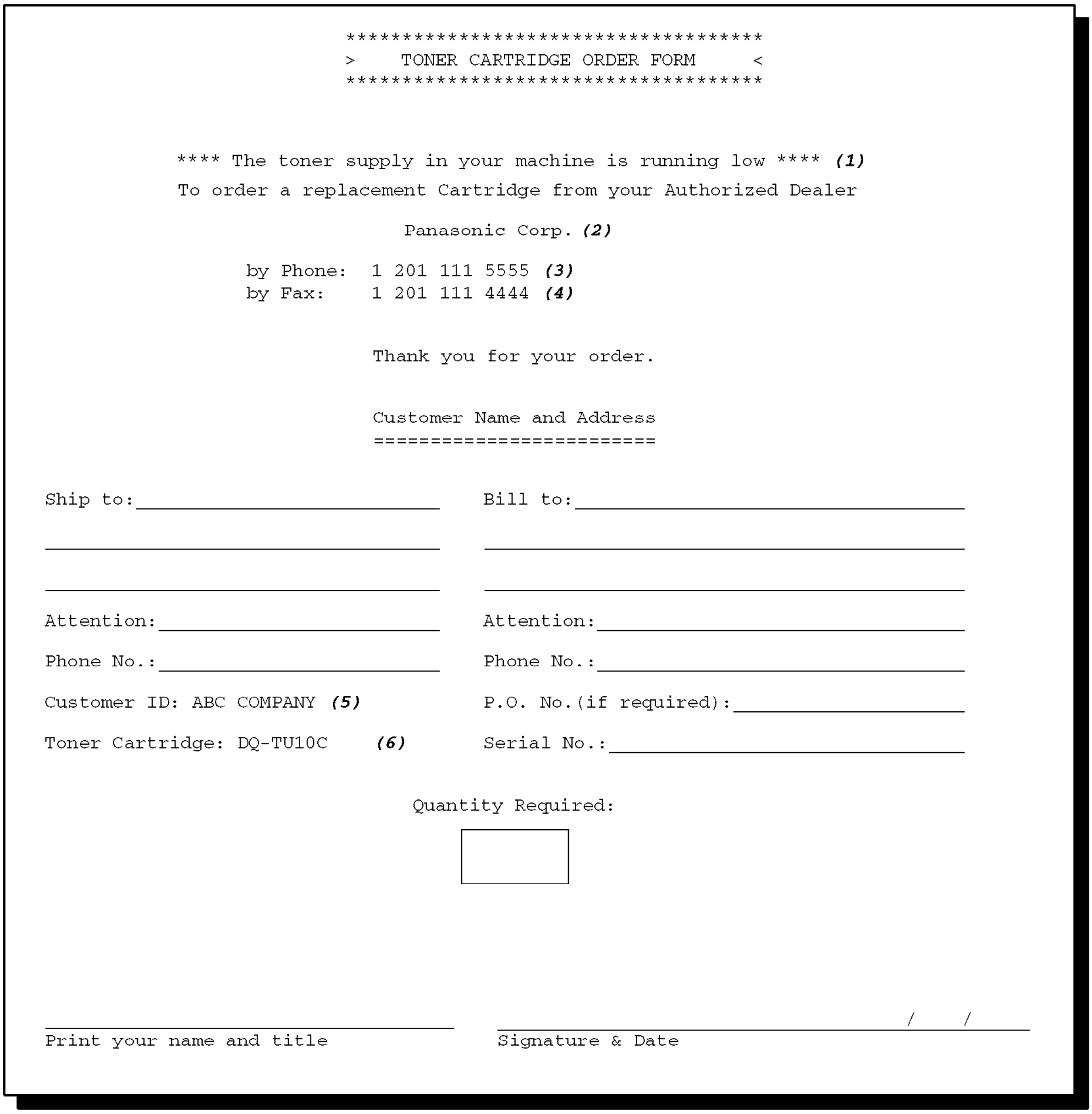
```
*************** PROTOCOL LOG. REPORT ****************** DATE MMM-dd-yyyy ***** TIME 16:56 *******


              STATUS        : OK
              MODE          : ECM-TX  (STANDARD)
              SPEED         : 9600bps  0MS/L
              REMOTE CAPA.  : DIS 00 CE B9 C4 80 12
              LOCAL CAPA.   : TSI 2B 20 20 20 38 37 2B 2B 2B 2B
                                  39 38 36 36 35 34 37 38 38 30
                              DCS 00 C6 F8 44

              COMMAND LOG.
              REMOTE        : NSF   CSI   DIS               CFR
              LOCAL         :                   TSI   DCS         PIX   PPS-EOP
              ------------------------------------------------------------------
              REMOTE        : MCF
              LOCAL         :       DCN
                                                             -PANASONIC DP-1810F-

***************************-PANASONIC DP-1810F-*************-12345678901234567890-**************
```

5.2.3.6. Toner Cartridge Order Form

The Toner Cartridge Order Form can be printed out manually by the following procedure.

Service Mode 3 for DP-1810F - Toner Cartridge Order Form

Step	Operation or Unit Condition	LCD Display
1	Standby	MMM-dd-yyyy 15:00 00%
2	Press “FUNCTION” and then “7”.	SET MODE (1-4) ENTER NO. OR V Λ
3	Press “MONITOR” four times, then press “*”.	SERVICE MODE ENTER NO. OR V Λ
4	Press “3”. Use “V” or “/\ “ to scroll to the desired printout.	PRINTOUT (1-7) 1:FUNC. PARAM. LIST
5	Press “7” and “START”.	* PRINTING * TONER ORDER FORM
6	After printing is completed, the unit returns to the display in step 3.	SERVICE MODE ENTER NO. OR V Λ
7	Press “STOP” to return to standby.	MMM-dd-yyyy 15:00 00%



```
                    ************************************
                    >    TONER CARTRIDGE ORDER FORM    <
                    ************************************


      **** The toner supply in your machine is running low **** (1)
      To order a replacement Cartridge from your Authorized Dealer

                          Panasonic Corp. (2)

            by Phone:  1 201 111 5555 (3)
            by Fax:    1 201 111 4444 (4)

                       Thank you for your order.

                       Customer Name and Address
                       =========================

Ship to:__________________________  Bill to:_________________________________

__________________________________  _________________________________________

__________________________________  _________________________________________

Attention:________________________  Attention:_______________________________

Phone No.:________________________  Phone No.:_______________________________

Customer ID: ABC COMPANY  (5)       P.O. No.(if required):___________________

Toner Cartridge: DQ-TU10C   (6)     Serial No.:______________________________

                          Quantity Required:
                              [        ]



____________________________________  ____________________________/____/_____
Print your name and title             Signature & Date
```

Explanation of Contents

(1) Low Toner Message (Fixed)	“The toner supply in your machine is running low”
(2) Dealer Name	Up to 25 digits
(3) Toner Order Tel #	Up to 36 digits
(4) Toner Order Fax #	Up to 36 digits
(5) Customer ID	Up to 16 characters (User Identification Code)
(6) Toner Cartridge No.	DQ-TU10C

5.2.4. Service Mode 4 (Modem Test)

5.2.4.1. Binary Signal

This Service Mode is used to check the binary signal output. Signals can be output to the line using the following procedure.

Service Mode 4 for DP-1810F - Binary Signal

Step	Operation or Unit Condition	LCD Display
1	Standby	MMM-dd-yyyy 15:00 00%
2	Press “FUNCTION” and then “7”.	SET MODE (1-4) ENTER NO. OR V Λ
3	Press “MONITOR” four times, then press “*”.	SERVICE MODE ENTER NO. OR V Λ
4	Press “4”. Use “V” or “/\ “ to scroll to the desired Modem Test.	MODEM TEST (1-5) 1:SIGNAL TEST
5	Press “START”.	SIGNAL TEST IDLE (ENTER 1-9)
6	Enter the signal number (1-9) to select the binary signal.	SIGNAL TEST 300bps
7	Press "CLEAR" to end the signal generation. To select another signal, repeat step 6.	SIGNAL TEST IDLE (ENTER 1-9)
8	Press "STOP" twice to return to standby.	MMM-dd-yyyy 15:00 00%

Binary Signal Table

Number	Signals
1	V21 300bps
2	V27ter 2400bps
3	V27ter 4800bps
4	V29 7200bps
5	V29 9600bps
6	V17 TC7200bps
7	V17 TC9600bps
8	V33 12000bps
9	V33 14400bps

5.2.4.2. Tonal Signal

This Service Mode is used to check the tonal signal output. Signals can be output to the line using the following procedure.

Service Mode 4 for DP-1810F - Tonal Signal

Step	Operation or Unit Condition	LCD Display
1	Standby	MMM-dd-yyyy 15:00 00%
2	Press “FUNCTION” and then “7”.	SET MODE (1-4) ENTER NO. OR V Λ
3	Press “MONITOR” four times, then press “*”.	SERVICE MODE ENTER NO. OR V Λ
4	Press “4”. Use “V” or “/\ “ to scroll to the desired Modem Test.	MODEM TEST (1-5) 1:SIGNAL TEST
5	Press “2” and “START”.	SIGNAL TEST IDLE (ENTER 1-7)
6	Enter the signal number (1-7) to select the binary signal.	TONAL TEST 1080Hz
7	Press "CLEAR" to end the signal generation. To select another signal, repeat step 6.	SIGNAL TEST IDLE (ENTER 1-7)
8	Press "STOP" twice to return to standby.	MMM-dd-yyyy 15:00 00%

Tonal Signal Table

Number	Signals
1	462 Hz
2	1080 Hz
3	1100 Hz
4	1300 Hz
5	1650 Hz
6	1850 Hz
7	2100 Hz

5.2.4.3. DTMF Signal

This Service Mode is used to check the DTMF (Dual Tone Multi Frequency) signal output.
The DTMF signal can be generated using the following procedure.

Sevice Mode 4 for DP-1810F - DTMF Signal

Step	Operation or Unit Condition	LCD Display
1	Standby	MMM-dd-yyyy 15:00 00%
2	Press “FUNCTION” and then “7”.	SET MODE (1-4) ENTER NO. OR V Λ
3	Press “MONITOR” four times, then press “*”.	SERVICE MODE ENTER NO. OR V Λ
4	Press “4”. Use “V” or “/\ “ to scroll to the desired Modem Test.	MODEM TEST (1-5) 1:SIGNAL TEST
5	Press “3” and “START”.	DTMF TEST (1-2) 1.SINGLE
6a	Press "START" for DTMF Single Tone Generation.	SINGLE TONE ENTER (1-8)
7a	Enter the signal number (1-8) to select the DTMF signal.	SINGLE TONE 697Hz
6b	Press "2" and "START" for Dual Tone Generation.	DUAL TONE (0-#)
7b	Enter the signal number (0-#) to select the DTMF Dual tone.	DUAL TONE (0)
8	Press "CLEAR" to end the signal generation. To select another signal, repeat step 7a or 7b.	SINGLE TONE
9	Press "STOP" twice to return to standby.	MMM-dd-yyyy 15:00 00%

DTMF Single Tone Table

Number	DTMF Signal Tones
1	697 Hz
2	770 Hz
3	852 Hz
4	941 Hz
5	1209 Hz
6	1336 Hz
7	1477 Hz
8	1633 Hz

DTMF Dual Tone Table

Number	DTMF Dual Tones
0	941 Hz + 1336 Hz
1	697 Hz + 1209 Hz
2	697 Hz + 1336 Hz
3	697 Hz + 1477 Hz
4	770 Hz + 1209 Hz
5	770 Hz + 1336 Hz
6	770 Hz + 1477 Hz
7	852 Hz + 1209 Hz
8	852 Hz + 1336 Hz
9	852 Hz + 1477 Hz
*	941 Hz + 1209 Hz
#	941 Hz + 1477 Hz

5.2.4.4. Binary Signal (V.34)

This Service Mode is used to check the binary signal output. Signals can be output to the line using the following procedure. (V.34)

Service Mode 4 for DP-1810F - Binary Signal		
Step	**Operation or Unit Condition**	**LCD Display**
1	Standby	MMM-dd-yyyy 15:00 00%
2	Press “FUNCTION” and then “7”.	SET MODE (1-4) ENTER NO. OR V Λ
3	Press “MONITOR” four times, then press “*”.	SERVICE MODE ENTER NO. OR V Λ
4	Press “4”. Use “V” or “/\ “ to scroll to the desired Modem Test.	MODEM TEST (1-5) 1:SIGNAL TEST
5	Press “4” and “START”.	V.34 MODEM TEST ENTER NO._
6	Enter the signal number (01-61) and press [SET] to select the binary signal.	V.34 MODEM TEST V34 2400sr 2400bps
7	Press "CLEAR" to end the signal generation. To select another signal, repeat step 7.	V.34 MODEM TEST ENTER NO._
8	Press "STOP" twice to return to standby.	MMM-dd-yyyy 15:00 00%

Binary Signal Table

Number	Signals	Number	Signals	Number	Signals
01	V34 2400 sr 2400 bps	22	V34 3000 sr 9600 bps	43	V34 3429 sr 4800 bps
02	V34 2400 sr 4800 bps	23	V34 3000 sr 12000 bps	44	V34 3429 sr 7200 bps
03	V34 2400 sr 7200 bps	24	V34 3000 sr 14400 bps	45	V34 3429 sr 9600 bps
04	V34 2400 sr 9600 bps	25	V34 3000 sr 16800 bps	46	V34 3429 sr 12000 bps
05	V34 2400 sr 12000 bps	26	V34 3000 sr 19200 bps	47	V34 3000 sr 19200 bps
06	V34 2400 sr 14400 bps	27	V34 3000 sr 21600 bps	48	V34 3429 sr 16800 bps
07	V34 2400 sr 16800 bps	28	V34 3000 sr 24000 bps	49	V34 3429 sr 19200 bps
08	V34 2400 sr 19200 bps	29	V34 3000 sr 26400 bps	50	V34 3429 sr 21600 bps
09	V34 2400 sr 21600 bps	30	V34 3000 sr 28800 bps	51	V34 3429 sr 24000 bps
10	V34 2800 sr 4800 bps	31	V34 3200 sr 4800 bps	52	V34 3429 sr 26400 bps
11	V34 2800 sr 7200 bps	32	V34 3200 sr 7200 bps	53	V34 3429 sr 28800 bps
12	V34 2800 sr 9600 bps	33	V34 3200 sr 9600 bps	54	V34 3429 sr 31200 bps
13	V34 2800 sr 12000 bps	34	V34 3200 sr 12000 bps	55	V34 3429 sr 33600 bps
14	V34 2800 sr 14400 bps	35	V34 3200 sr 14400 bps	56	ANSam
15	V34 2800 sr 16800 bps	36	V34 3200 sr 16800 bps	57	CM
16	V34 2800 sr 19200 bps	37	V34 3200 sr 19200 bps	58	JM
17	V34 2800 sr 21600 bps	38	V34 3200 sr 21600 bps	59	INFO0c & TONEB
18	V34 2800 sr 24000 bps	39	V34 3200 sr 24000 bps	60	INFO0c & TONEA
19	V34 2800 sr 26400 bps	40	V34 3200 sr 26400 bps	61	PPh & AC & ALT
20	V34 3000 sr 4800 bps	41	V34 3200 sr 28800 bps		
21	V34 3000 sr 7200 bps	42	V34 3200 sr 31200 bps		

5.2.5. Service Mode 6 (RAM Initialization)

Initializes RAM and restores the Function Parameters to their default values.

Note:
This operation should be performed when the unit is first installed.

Service Mode 6 for DP-1810F

Step	Operation or Unit Condition	LCD Display
1	Standby	MMM-dd-yyyy 15:00 00%
2	Press “FUNCTION” and then “7”.	SET MODE (1-4) ENTER NO. OR V Λ
3	Press “MONITOR” four times, then press “*”.	SERVICE MODE ENTER NO. OR V Λ
4	Press “6”. Use “V” or “/\ “ to scroll to the desired RAM Initialization.	* RAM INITIALIZE * PARAMETER INITIALIZE
5	Press “V” or “/\ “ to select the initialization mode.	* RAM INITIALIZE * LOGO/ID/PSWD CLEAR
6	Press “START”.	LOGO/ID/PSWD CLEAR * COMPLETED *
7	Return to step 3 and press “STOP” to return to standby.	MMM-dd-yyyy 15:00 00%

RAM Initialization Table

No.	Initialize Mode	Description
99	SHIPMENT SET (A)	Deletes all setting information, except parameter number 80 and 81, then set default values.
98	SHIPMENT SET (B)	Deletes all setting information, except parameter number 61, 80 and 81, then set default values.
97	FLASH MEMORY CLEAR	Deletes all information in the Flash Memory.
1#	MANUFACTURE SET	Factory use only. DO NOT USE IN THE FIELD.
16	LBP ERROR LOG CLEAR	Clears the Printer Error Log.
15	LOGO/ID/PSWD CLEAR	Clears the Logo, ID, Polling Password.
14	ALL JOB CLEAR	Clears all Jobs stored in Flash Memory.
13	PROGRAM DIAL CLEAR	Clears the Program keys.
12	AUTO DIAL CLEAR	Clears the One-touch, ABBR Numbers and Phone Books.
11	JOURNAL CLEAR	Clears the Journal contents.
*	PARAMETER INITIALIZE	Restores the Fax and Function Parameters to default values.

5.2.6. Service Mode 8 (Check & Call)

5.2.6.1. Overview

This feature enables the Authorized Servicing Dealers to manage and improve the machine maintenance to their customers by alerting them of equipment problems. It also can be used as a Supply Sales Tool by alerting the Dealer that the unit is running Low on Toner. The function overview is as follows:

1. The machine's printer error information is stored in the Printer Report.
2. The printer report can be manually printed when required.
3. When printer errors occurs, the unit can automatically transmit the Service Alert Report to the pre-registered telephone number or email address.
4. When the unit detects Low Toner or PM counter reached the maintenance timing, it can automatically transmit the Maintenance Alert Report to the pre-registered telephone number or email address.
5. When the unit detects Low Toner, it can automatically print out the Toner Order Form with pre-registered order information.

5.2.6.2. Printer Reports

- **Conditions under which a report can be printed or transmitted**

1. Manual print
   The Printer Report can be printed by Service Mode 3. (See Sect. 5.2.3.1.)
2. Automatic transmission/printout
   a. Service Alert Report
      When the unit detects an Emergency Printer Error, the unit will immediately transmit the Service Alert Report to the
      pre-registered telephone number or email address. However, the unit will not transmit the Service Alert Report if it finds the same error within the same date in the error log.
   b. Maintenance Alert Report
      When the unit detects Low Toner, the unit can automatically transmit the Maintenance Alert Report to the pre-registered telephone number or email address. Refer to the Printer Error Code Table.
   c. Toner Order Form
      When the unit detects Low Toner, the unit can automatically print the Toner Order Form with the pre-registered order information.

Note:
The Service and Maintenance Alert Reports are managed in the same manner as the normal memory transmission (Retry, Incomplete, File List, Display while it is transmitting, Journal).

- **Printer Error Code Table**

Info. Code	Printer Error Code	Log Only	Tx Report	Content of Error
E1-20	22	O	O	Laser unit horizontal synchronization error.
E1-22	20	O	O	Polygon motor does not reach to constant speed within specified time.
	21	O	O	Polygon motor does not rotate constantly.
E3-20	41	O	O	Main motor (DC motor) rotation error.
E4-01	10	O	O	Fuser temperature does not increase even heater on.
	11	O	O	Fuser temperature does not decrease even heater off.
	12	O	O	Overshoot or undershoot occurred.
	13	O	O	Thermistor open.
	14	O	O	Detect overheat.
E4-02	15	O	O	Paper Jam in Fuser Unit

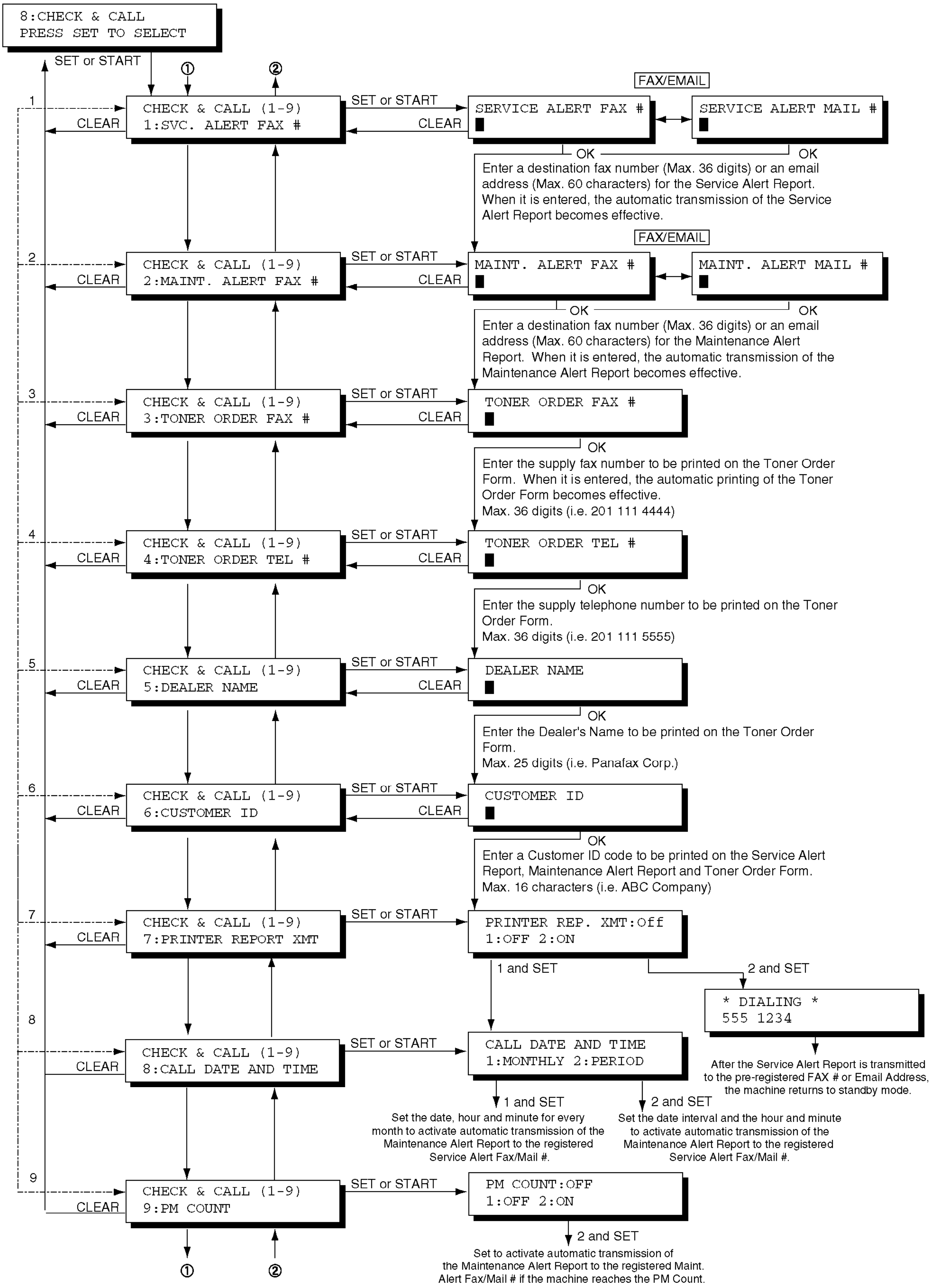
Info. Code	Printer Error Code	Log Only	Tx Report	Content of Error
E4-10	30	O	O	Exhaust fan motor (1) does not rotate.
E5-11	40	O	O	Fuser Thermistor and Toner sensor error.
E5-12	-	O	O	Main CPU/LPC interface error.
E5-22	51	O	O	Finisher/LPC unit interface error.
E7-10	-	O	O	Sub CPU System error.
E7-11	-	O	O	Scanning abnormal from Platen Glass.
E7-12	-	O	O	Xenon Lamp is Disconnected.
E13	-			Out of Toner.
J00	80	O		Paper jam. Refer to the Jam Error Code Table for details. J80~89 Info. Code is for DP-2010E only.
J01	81	O		
J02	82	O		
J03	83	O		
J04	84	O		
J07	85	O		
J08	86	O		
J09	87	O		
J12	89	O		
J13	8A	O		
J14	8B	O		
J22	70	O		
J23	71	O		
J24	72	O		
J30	88	O		
J33	73	O		
J34	B4	O		
J40	8C	O		
J41	8D	O		
J42	74	O		
J80	B0	O		
J81	B1	O		
J82	B2	O		
J83	B3	O		
J84	B5	O		
J85	B6	O		
J86	B7	O		
J87	B8	O		
J88	7A	O		
J89	7B	O		
J89	7C	O		
J89	7D	O		
J90	90	O		
J91	91	O		
J92	92	O		
U1	61			Front Cover Open.
U1	62			Right Cover Open.

Info. Code	Printer Error Code	Log Only	Tx Report	Content of Error
U13	60			No Toner Cartridge is installed.
U13			X	Low Toner
U7	66			1st Feed Cover Open.
U7	67			2nd Feed Cover Open.
U7	68			3rd Feed Cover Open.
U7	69			4th Feed Cover Open.
U7	6A			Paper Transport Unit Open.

Note:

1. Transmission Report: o = Service Alert Report, x = Maintenance Alert Report
2. Condition: R = Receive Mode, C = Copy Mode, S = Standby Mode, T = Transmit Mode

5.2.6.3. Setting Operation


8:CHECK & CALL
PRESS SET TO SELECT
SET or START
①
②
1
CHECK & CALL (1-9)
1:SVC. ALERT FAX #
CLEAR
SET or START
FAX/EMAIL
SERVICE ALERT FAX #
SERVICE ALERT MAIL #
OK
2
CHECK & CALL (1-9)
2:MAINT. ALERT FAX #
MAINT. ALERT FAX #
MAINT. ALERT MAIL #
3
CHECK & CALL (1-9)
3:TONER ORDER FAX #
TONER ORDER FAX #
4
CHECK & CALL (1-9)
4:TONER ORDER TEL #
TONER ORDER TEL #
5
CHECK & CALL (1-9)
5:DEALER NAME
DEALER NAME
6
CHECK & CALL (1-9)
6:CUSTOMER ID
CUSTOMER ID
7
CHECK & CALL (1-9)
7:PRINTER REPORT XMT
PRINTER REP. XMT:Off
1:OFF 2:ON
1 and SET
2 and SET
* DIALING *
555 1234
8
CHECK & CALL (1-9)
8:CALL DATE AND TIME
CALL DATE AND TIME
1:MONTHLY 2:PERIOD
9
CHECK & CALL (1-9)
9:PM COUNT
PM COUNT:OFF
1:OFF 2:ON

Enter a destination fax number (Max. 36 digits) or an email address (Max. 60 characters) for the Service Alert Report. When it is entered, the automatic transmission of the Service Alert Report becomes effective.

Enter a destination fax number (Max. 36 digits) or an email address (Max. 60 characters) for the Maintenance Alert Report. When it is entered, the automatic transmission of the Maintenance Alert Report becomes effective.

Enter the supply fax number to be printed on the Toner Order Form. When it is entered, the automatic printing of the Toner Order Form becomes effective.
Max. 36 digits (i.e. 201 111 4444)

Enter the supply telephone number to be printed on the Toner Order Form.
Max. 36 digits (i.e. 201 111 5555)

Enter the Dealer's Name to be printed on the Toner Order Form.
Max. 25 digits (i.e. Panafax Corp.)

Enter a Customer ID code to be printed on the Service Alert Report, Maintenance Alert Report and Toner Order Form.
Max. 16 characters (i.e. ABC Company)

After the Service Alert Report is transmitted to the pre-registered FAX # or Email Address, the machine returns to standby mode.

1 and SET: Set the date, hour and minute for every month to activate automatic transmission of the Maintenance Alert Report to the registered Service Alert Fax/Mail #.

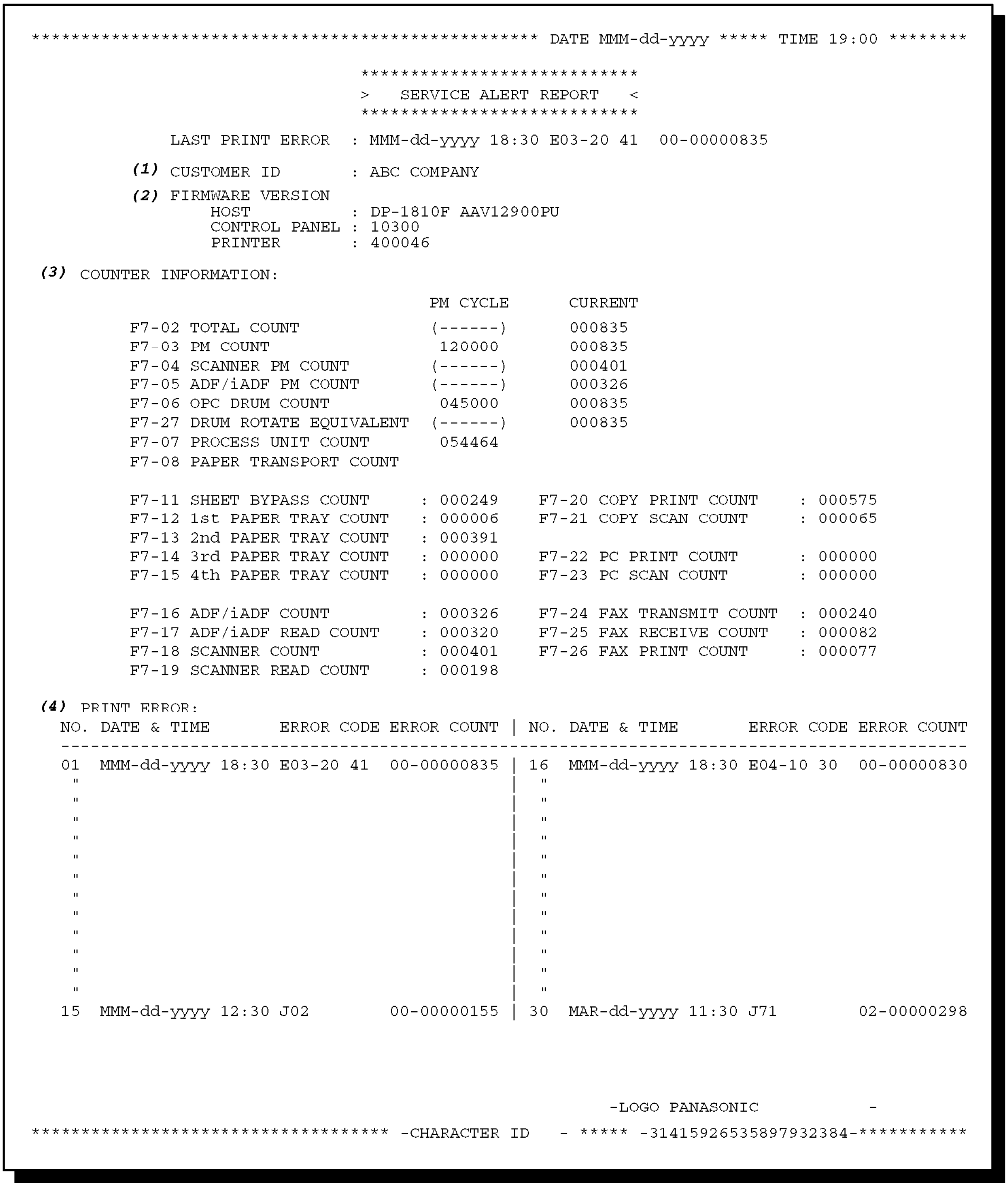
2 and SET: Set the date interval and the hour and minute to activate automatic transmission of the Maintenance Alert Report to the registered Service Alert Fax/Mail #.

2 and SET: Set to activate automatic transmission of the Maintenance Alert Report to the registered Maint. Alert Fax/Mail # if the machine reaches the PM Count.

Note

1. **Service Alert Report**
   To enable the automatic transmission of Service Alert Report, enter the destination fax telephone number or the email address in the “SERVICE ALERT (FAX # or MAIL #)" field. When a printer error occurs, the Service Alert Report is transmitted to the designated number automatically. A blank entry in this field, disables the Automatic transmission of the Service Alert Report.
2. **Maintenance Alert Report**
   To enable the automatic transmission of Maintenance Alert Report, enter the destination fax telephone number or the email address in the “"MAINT. ALERT (FAX # or MAIL #)" field. When a printer error occurs, the Maintenance Alert Report is transmitted to the designated number automatically. A blank entry in this field, disables the Automatic transmission of the Maintenance Alert Report.
3. **Toner Order Form**
   To enable the automatic printout of the Toner Order Form, enter the destination fax telephone numbers in the “Toner Order FAX #” field. When a low toner error occurs, the Toner Order Form is printed automatically. A blank entry in this field, disables the automatic printout of the Toner Order Form.
4. **SERVICE ALERT FAX #**, this would be the fax telephone number for the Dealer's Service Department.
   SERVICE ALERT MAIL #, this would be the email address for the Dealer's Service Department.
   MAINT. ALERT FAX #, this could be the fax telephone number for the Dealer's Supply Sales Desk.
   MAINT. ALERT MAIL #, this could be the email address for the Dealer's Supply Sales Desk.
   TONER ORDER FAX #, this could be the fax telephone number for the Dealer's Supply Sales Desk.
   TONER ORDER TEL #, this could be the voice telephone number for the Dealer's Supply Sales Desk.
   DEALER NAME, this name is printed on the Toner Order Form.
   CUSTOMER ID, to identify your customer, enter up to 16 characters user code in this field. This name will be printed on the Service Alert Report, Maintenance Alert Report and Toner Order Form.

5.2.6.4. SERVICE ALERT REPORT FORMAT



```
*************************************************** DATE MMM-dd-yyyy ***** TIME 19:00 ********

                                 ****************************
                                 >   SERVICE ALERT REPORT   <
                                 ****************************

             LAST PRINT ERROR  : MMM-dd-yyyy 18:30 E03-20 41  00-00000835

         (1) CUSTOMER ID       : ABC COMPANY

         (2) FIRMWARE VERSION
                 HOST          : DP-1810F AAV12900PU
                 CONTROL PANEL : 10300
                 PRINTER       : 400046

(3) COUNTER INFORMATION:
                                         PM CYCLE      CURRENT
         F7-02 TOTAL COUNT               (------)      000835
         F7-03 PM COUNT                   120000       000835
         F7-04 SCANNER PM COUNT          (------)      000401
         F7-05 ADF/iADF PM COUNT         (------)      000326
         F7-06 OPC DRUM COUNT             045000       000835
         F7-27 DRUM ROTATE EQUIVALENT    (------)      000835
         F7-07 PROCESS UNIT COUNT         054464
         F7-08 PAPER TRANSPORT COUNT

         F7-11 SHEET BYPASS COUNT     : 000249    F7-20 COPY PRINT COUNT    : 000575
         F7-12 1st PAPER TRAY COUNT   : 000006    F7-21 COPY SCAN COUNT     : 000065
         F7-13 2nd PAPER TRAY COUNT   : 000391
         F7-14 3rd PAPER TRAY COUNT   : 000000    F7-22 PC PRINT COUNT      : 000000
         F7-15 4th PAPER TRAY COUNT   : 000000    F7-23 PC SCAN COUNT       : 000000

         F7-16 ADF/iADF COUNT         : 000326    F7-24 FAX TRANSMIT COUNT  : 000240
         F7-17 ADF/iADF READ COUNT    : 000320    F7-25 FAX RECEIVE COUNT   : 000082
         F7-18 SCANNER COUNT          : 000401    F7-26 FAX PRINT COUNT     : 000077
         F7-19 SCANNER READ COUNT     : 000198

(4) PRINT ERROR:
  NO. DATE & TIME       ERROR CODE ERROR COUNT | NO. DATE & TIME       ERROR CODE ERROR COUNT
  -------------------------------------------------------------------------------------------
  01  MMM-dd-yyyy 18:30 E03-20 41  00-00000835 | 16  MMM-dd-yyyy 18:30 E04-10 30  00-00000830
   "                                           |  "
   "                                           |  "
   "                                           |  "
   "                                           |  "
   "                                           |  "
   "                                           |  "
   "                                           |  "
   "                                           |  "
   "                                           |  "
   "                                           |  "
   "                                           |  "
  15  MMM-dd-yyyy 12:30 J02        00-00000155 | 30  MAR-dd-yyyy 11:30 J71        02-00000298



                                                           -LOGO PANASONIC            -
*********************************** -CHARACTER ID   - ***** -31415926535897932384-***********
```

Explanation of Contents

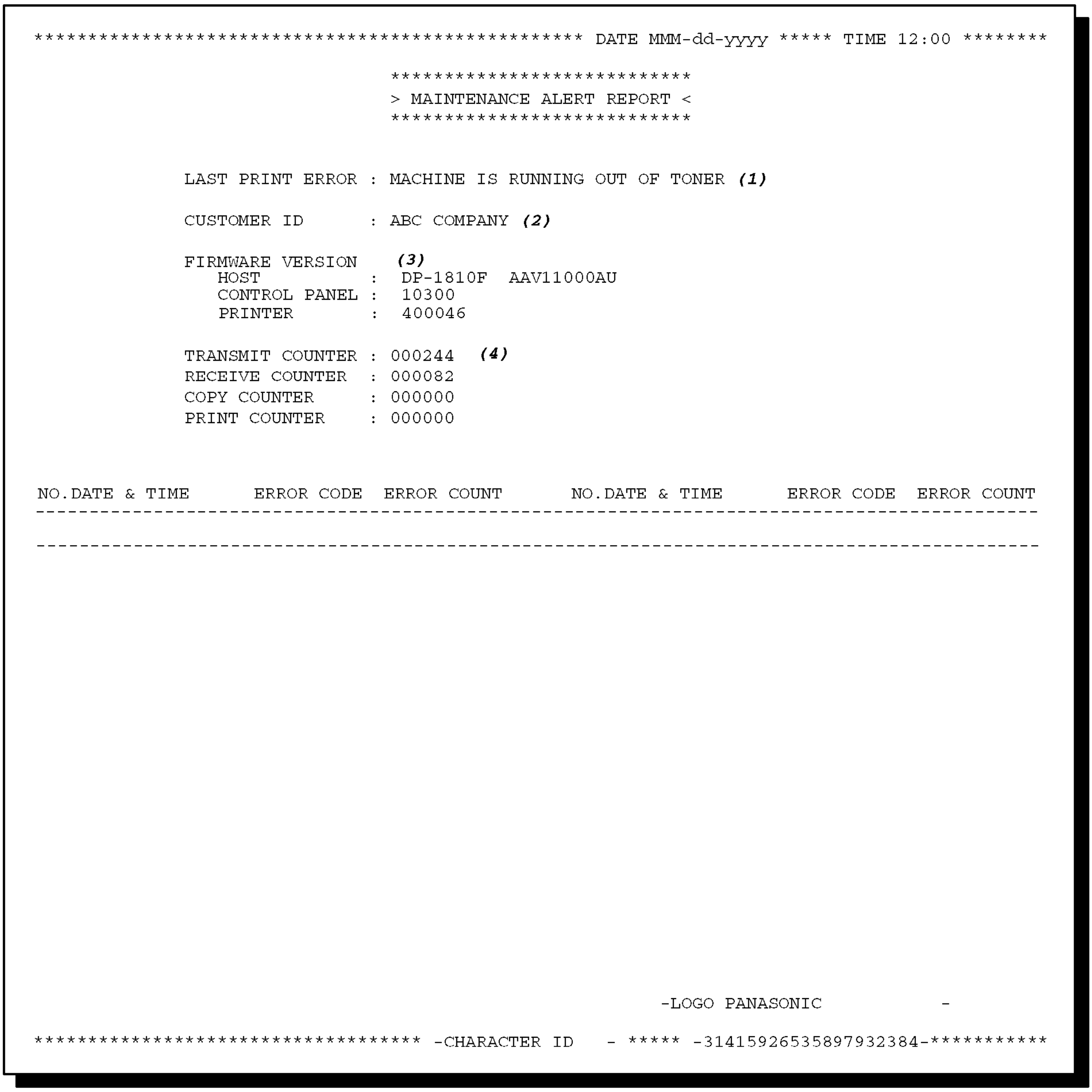
(1) Customer ID

(2) Firmware Version

(3) Counter Information

(4) Print Error — Last 30 records (Latest on top)

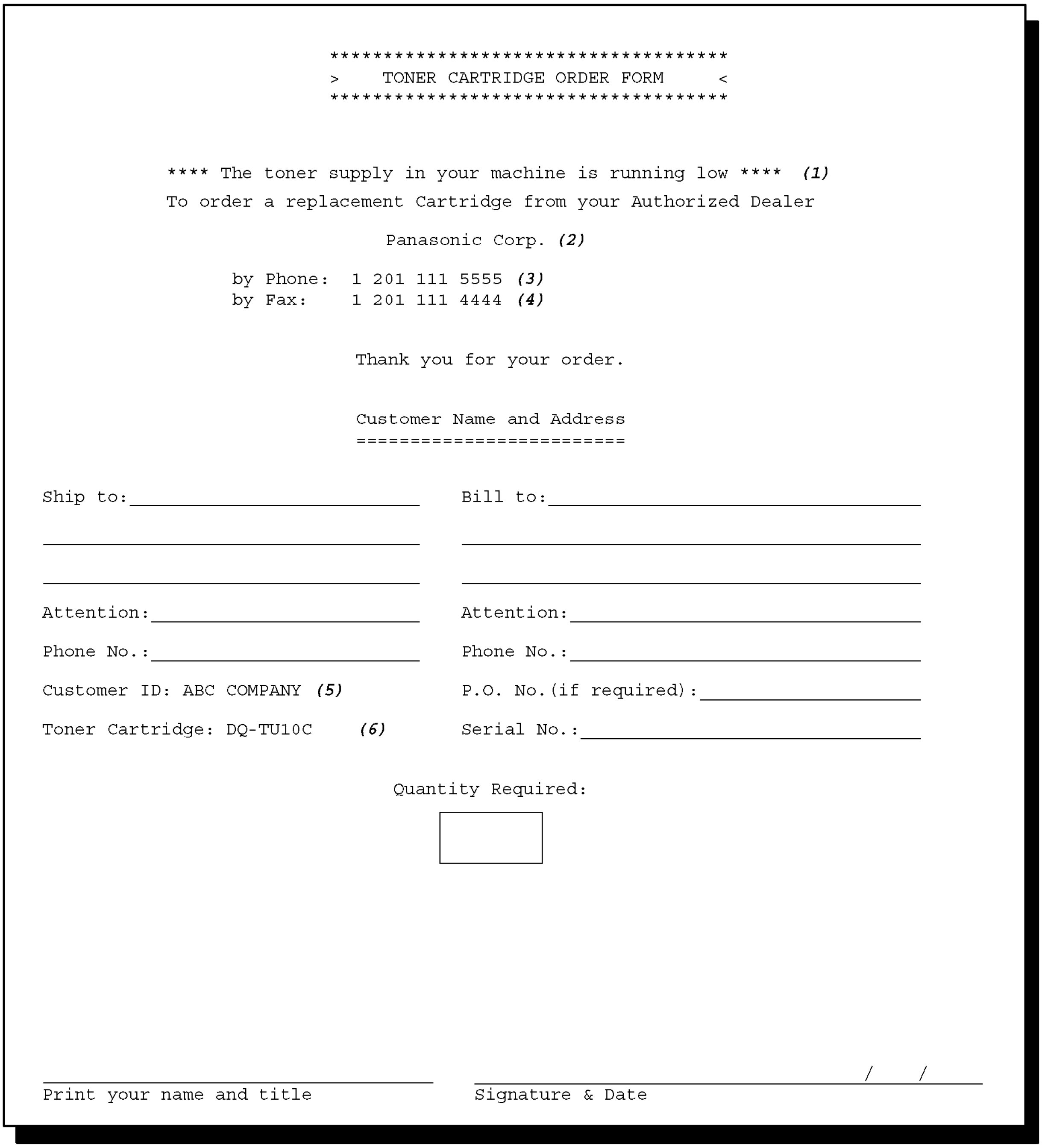
5.2.6.5. MAINTENANCE ALERT REPORT FORMAT



```
************************************************** DATE MMM-dd-yyyy ***** TIME 12:00 ********

                                 ****************************
                                 > MAINTENANCE ALERT REPORT <
                                 ****************************


              LAST PRINT ERROR : MACHINE IS RUNNING OUT OF TONER (1)

              CUSTOMER ID      : ABC COMPANY (2)

              FIRMWARE VERSION   (3)
                 HOST          :  DP-1810F  AAV11000AU
                 CONTROL PANEL :  10300
                 PRINTER       :  400046

              TRANSMIT COUNTER : 000244  (4)
              RECEIVE COUNTER  : 000082
              COPY COUNTER     : 000000
              PRINT COUNTER    : 000000


NO.DATE & TIME      ERROR CODE  ERROR COUNT      NO.DATE & TIME      ERROR CODE  ERROR COUNT
--------------------------------------------------------------------------------------------

--------------------------------------------------------------------------------------------


















                                                         -LOGO PANASONIC           -

*********************************** -CHARACTER ID    - ***** -31415926535897932384-***********
```

Explanation of Contents

(1) Low Toner Message (Fixed)	"MACHINE IS RUNNING OUT OF TONER"
(2) Customer ID	Up to 16 characters (User Identification Code)
(3) Firmware Version	
(4) Transmission / Reception / Copy / Print Counters	



```
                    *************************************
                    >    TONER CARTRIDGE ORDER FORM     <
                    *************************************


         **** The toner supply in your machine is running low ****  (1)
         To order a replacement Cartridge from your Authorized Dealer

                          Panasonic Corp. (2)

             by Phone:  1 201 111 5555 (3)
             by Fax:    1 201 111 4444 (4)


                           Thank you for your order.


                           Customer Name and Address
                           =========================


Ship to:___________________________       Bill to:_________________________________

___________________________________       _________________________________________

___________________________________       _________________________________________

Attention:_________________________       Attention:_______________________________

Phone No.:_________________________       Phone No.:_______________________________

Customer ID: ABC COMPANY (5)              P.O. No.(if required):____________________

Toner Cartridge: DQ-TU10C    (6)          Serial No.:______________________________


                              Quantity Required:
                                 ┌─────────┐
                                 │         │
                                 └─────────┘





____________________________________    _______________________________/____/______
Print your name and title               Signature & Date
```

Explanation of Contents

(1) Low Toner Message (Fixed)	"The toner supply in your machine is running low"
(2) Dealer Name	Up to 25 digits
(3) Toner Order Tel #	Up to 36 digits
(4) Toner Order Fax #	Up to 36 digits
(5) Customer ID	Up to 16 characters (User Identification Code)
(6) Toner Cartridge No.	DQ-TU10C

5.2.7. Service Mode 9 (System Maintenance)

5.2.7.1. Overview

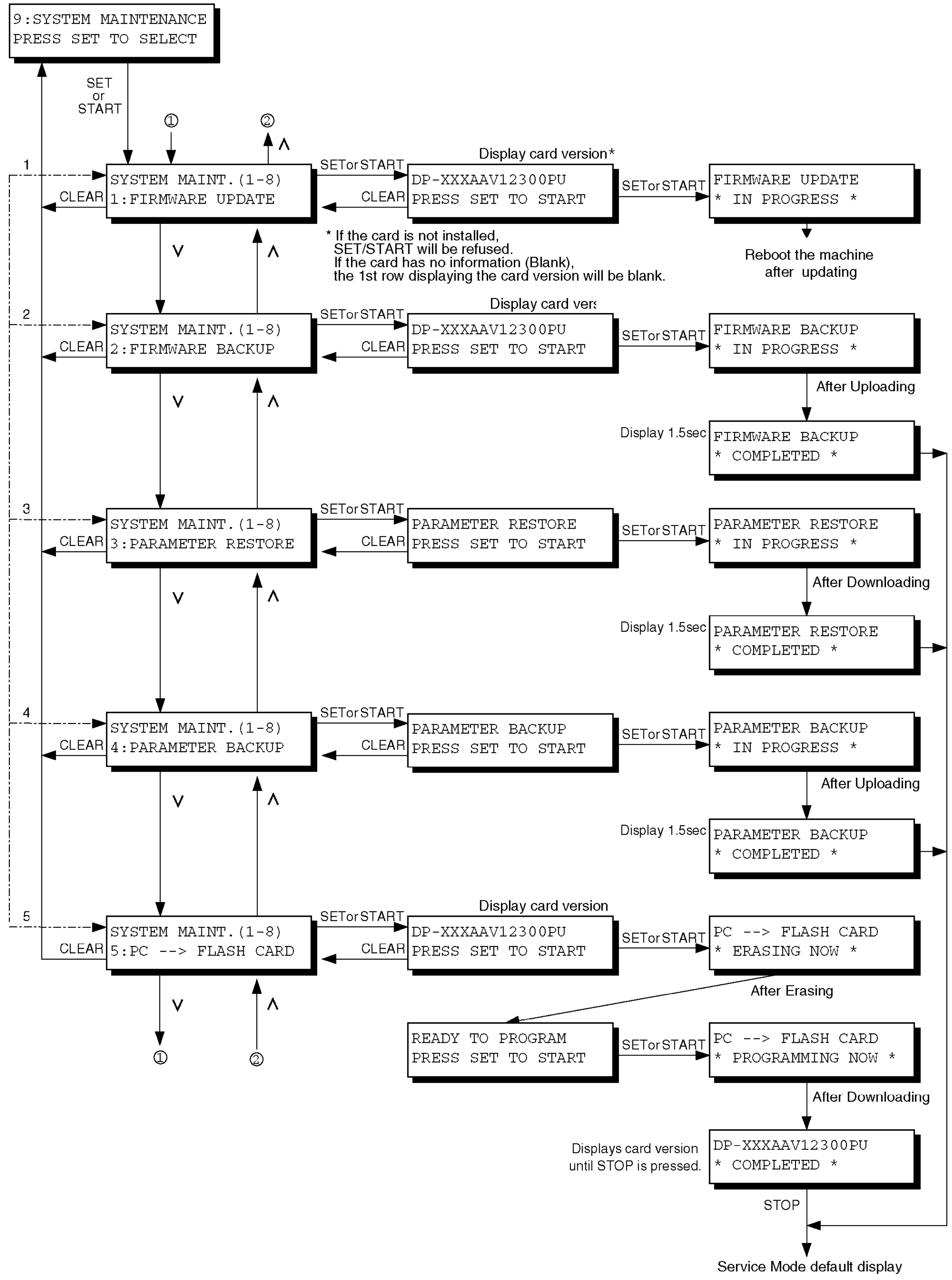
This Service Mode is used to maintain and/or update the firmware of the machine. Use the following procedure for System Maintenance.

Service Mode 9 for DP-1810F		
Step	**Operation or Unit Condition**	**LCD Display**
1	Standby	MMM-dd-yyyy 15:00 00%
2	Press “FUNCTION” and then “7”.	SET MODE (1-4) ENTER NO. OR V Λ
3	Press “MONITOR” four times, then press “*”.	SERVICE MODE ENTER NO. OR V Λ
4	Press “9”. Use “V” or “/\“ to scroll to the desired maintenance task.	SYSTEM MAINT. (1-8) 1:FIRMWARE UPDATE
5	Press “START” to view the current firmware, and press "START" again to update it. To perform other maintenance task, enter a No. or use “V” or “/\ “ to scroll to the desired task. Ex: Enter “2”.	SYSTEM MAINT. (1-8) 2:FIRMWARE BACKUP
6	Press “START” and “SET”.	FIRMWARE BACKUP * IN PROGRESS *
7	After the backup is completed, repeat step 5 through 6 to request another operation.	SERVICE MODE ENTER NO. OR V Λ
8	Press “STOP” to return to standby.	MMM-dd-yyyy 15:00 00%

System Maintenance Table

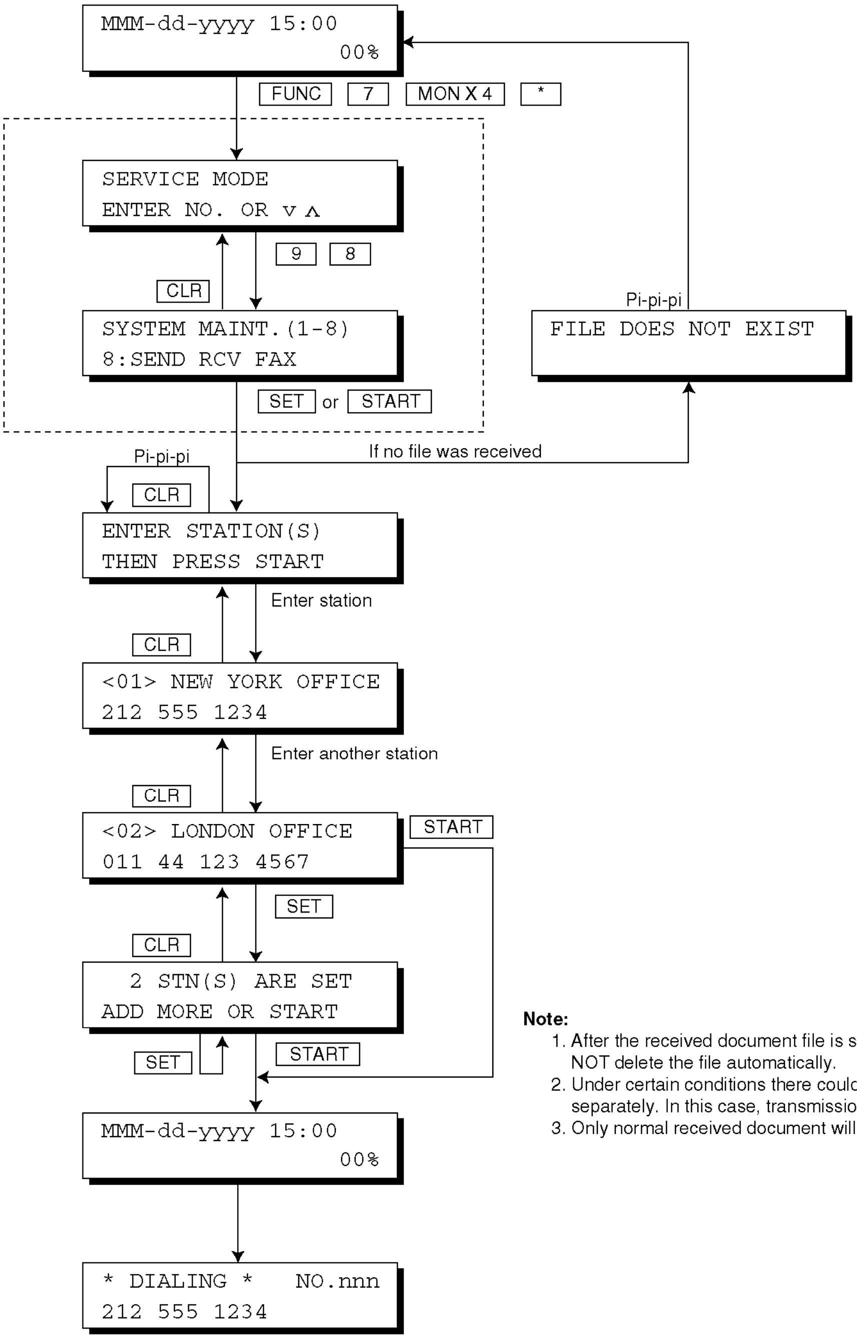
No.	Maintenance Mode	Description
1	FIRMWARE UPDATE	Updates the firmware in the machine with the Master Firmware Card. After the firmware is updated, the machine reboots and returns to standby
2	FIRMWARE BACKUP	Creates a Backup Card of the machine’s firmware. (A 4 MB or higher Flash Memory Card is required)
3	PARAMETER RESTORE	Restores the parameters from the Backup Card into the machine.
4	PARAMETER BACKUP	Creates a Backup Card of the machine’s parameters. (A 1 MB or higher Flash Memory Card is required)
5	PC → FLASH CARD	Creates a Master Firmware Card using the Firmware Update Kit. (A 2 MB or higher Flash Memory Card is required)
8	SEND RECEIVED FILE	Transfers documents from memory to another fax machine during a fatal printer error.

5.2.7.2. Operation


9:SYSTEM MAINTENANCE
PRESS SET TO SELECT
SET or START
①
②
Λ
1
SYSTEM MAINT.(1-8)
1:FIRMWARE UPDATE
CLEAR
SETorSTART
Display card version*
DP-XXXAAV12300PU
PRESS SET TO START
CLEAR
SETorSTART
FIRMWARE UPDATE
* IN PROGRESS *
Reboot the machine
after updating
* If the card is not installed,
SET/START will be refused.
If the card has no information (Blank),
the 1st row displaying the card version will be blank.
V
Λ
2
SYSTEM MAINT.(1-8)
2:FIRMWARE BACKUP
CLEAR
SETorSTART
Display card vers
DP-XXXAAV12300PU
PRESS SET TO START
CLEAR
SETorSTART
FIRMWARE BACKUP
* IN PROGRESS *
After Uploading
Display 1.5sec
FIRMWARE BACKUP
* COMPLETED *
V
Λ
3
SYSTEM MAINT.(1-8)
3:PARAMETER RESTORE
CLEAR
SETorSTART
PARAMETER RESTORE
PRESS SET TO START
CLEAR
SETorSTART
PARAMETER RESTORE
* IN PROGRESS *
After Downloading
Display 1.5sec
PARAMETER RESTORE
* COMPLETED *
V
Λ
4
SYSTEM MAINT.(1-8)
4:PARAMETER BACKUP
CLEAR
SETorSTART
PARAMETER BACKUP
PRESS SET TO START
CLEAR
SETorSTART
PARAMETER BACKUP
* IN PROGRESS *
After Uploading
Display 1.5sec
PARAMETER BACKUP
* COMPLETED *
V
Λ
5
SYSTEM MAINT.(1-8)
5:PC --> FLASH CARD
CLEAR
SETorSTART
Display card version
DP-XXXAAV12300PU
PRESS SET TO START
CLEAR
SETorSTART
PC --> FLASH CARD
* ERASING NOW *
After Erasing
V
Λ
①
②
READY TO PROGRAM
PRESS SET TO START
SETorSTART
PC --> FLASH CARD
* PROGRAMMING NOW *
After Downloading
Displays card version
until STOP is pressed.
DP-XXXAAV12300PU
* COMPLETED *
STOP
Service Mode default display

5.2.7.3. Send Received File

This function is the relief mode which makes it possible to retrieve memory received documents during a fatal printer error by transferring the documents to another fax machine.


MMM-dd-yyyy 15:00
00%
FUNC
7
MON X 4
*
SERVICE MODE
ENTER NO. OR ∨ ∧
9
8
CLR
SYSTEM MAINT.(1-8)
8:SEND RCV FAX
SET
or
START
Pi-pi-pi
FILE DOES NOT EXIST
If no file was received
Pi-pi-pi
CLR
ENTER STATION(S)
THEN PRESS START
Enter station
CLR
<01> NEW YORK OFFICE
212 555 1234
Enter another station
CLR
<02> LONDON OFFICE
011 44 123 4567
START
SET
CLR
2 STN(S) ARE SET
ADD MORE OR START
SET
START
MMM-dd-yyyy 15:00
00%
* DIALING * NO.nnn
212 555 1234

Note:

1. After the received document file is successfully transmitted, unit will NOT delete the file automatically.
2. Under certain conditions there could be two (2) received files stored separately. In this case, transmission will be made separately.
3. Only normal received document will be transmitted.

6 System Description

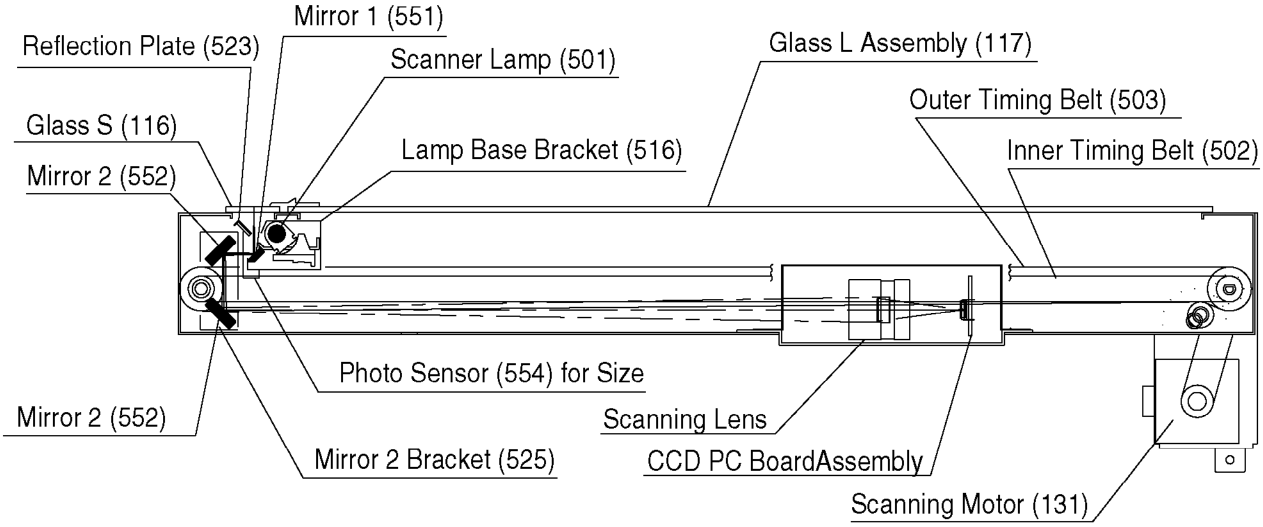
6.1. Mechanical Operation

6.1.1. Scanning Mechanism (Flatbed)

1. Scanning Mechanism

The Scanning Mechanism consisting of Lens, CCD PC Board Assembly, Mirrors (551,552), Scanner Lamp (501), Lamp Base Bracket (516) and Mirror 2 Bracket (525), is used to scan originals.

- The Mirror 1 (551) and Mirrors 2 (552) reflect image information, in the form of light, through the Lens.
- The Lens focuses the image information and passes it to the CCD.
- The CCD, mounted on the CCD PC Board, converts the image information into an electrical signal.
- The Inner and Outer Timing Belts (502 & 503) driven by the Scanning Motor (131), move the Scanner Assembly.

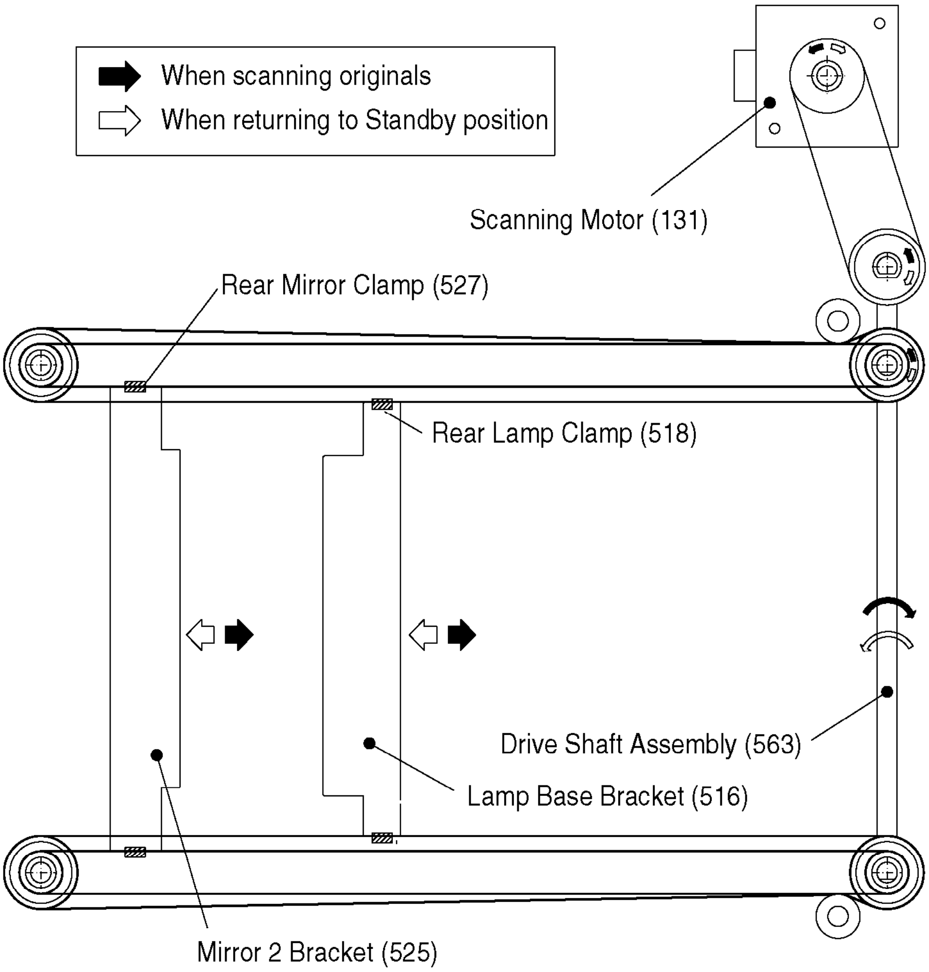

Mirror 1 (551)
Reflection Plate (523)
Scanner Lamp (501)
Glass L Assembly (117)
Outer Timing Belt (503)
Glass S (116)
Lamp Base Bracket (516)
Inner Timing Belt (502)
Mirror 2 (552)
Photo Sensor (554) for Size
Mirror 2 (552)
Scanning Lens
Mirror 2 Bracket (525)
CCD PC BoardAssembly
Scanning Motor (131)

2. Transmit Mechanism

a. When ADF is used, originals are scanned on the Glass S (116). The Glass L Assembly (117) is used when scanning on the Platen.
b. The Scanning point is established by the Photo Sensor (554) for Size.
c. Document size is manually set when the Platen is used.
d. The Transmit Mechanism starts feeding and scanning originals based on the above Document Size Setting.
e. When scanning is completed, the Scanning Motor (131) stops rotating and the Lamp Base and Mirror 2 Brackets (516 & 525) return to the standby position.

3. Drive Mechanism

During scanning, the Lamp Base Bracket (516) and Mirror 2 Bracket (525) move in the direction of the Black arrow and while returning to standby position, it moves in the direction of the White arrow as shown in the illustration below. The location of these two brackets are established by the Photo Sensor (554) for Size and the scanning length is established by the setting on the Control Panel. The following illustrates the Drive system.


When scanning originals
When returning to Standby position
Scanning Motor (131)
Rear Mirror Clamp (527)
Rear Lamp Clamp (518)
Drive Shaft Assembly (563)
Lamp Base Bracket (516)
Mirror 2 Bracket (525)

6.2. Automatic Document Feeder

The ADF (Automatic Document Feeder) automatically feeds paper into the unit, one original at a time.
Its main features are:

1. Place originals Face-Up
2. Correct Order Stacking (Collation Mode)
3. Paper Feed Mechanism with Pre Feed Roller

The following is the ADF Mechanical operation description.

6.2.1. Automatic Document Feeder

1. **Initialization**

   The ADF begins its operation with the Eject phase in order to feed and eject any originals stuck inside the ADF. The ADF Motor starts rotating Feed Roller (409), Exit Roller (316) and Ejecting the Original, after a few seconds the Clutch (1141) reverses the rotation direction raising the Original Stopper to its standby position.

2. **Original Setting and Size Sensors**

   Place the original(s) face up on the ADF until the leading edge stops against the Original Stopper. Adjust the Original Guides (332 & 335) to center the original on the ADF. The Original Stopper prevents originals from skewing and multiple feeding. The Photo Sensor (604) for Original Detection detects the presence of Originals on the ADF when the original(s) actuate NP Actuator (407) on the Lower Paper Feed Guide (401). The two Sensors mounted on the SNS PC Board (134) which is installed in the Original Tray (333, 327) are actuated by the Original Guides, their position determines the original's width and 2 Photo Sensors (604) for Original Length detect the length of the original.

3. **Feeding and Separation**

   When the Start button is pressed, the Clutch (1141) starts to rotate and uppers the Original Stopper, causing the Pre Feed Roller (420) to apply a downwards pressure against the originals. After a few seconds, the Clutch (1141) reverses the direction of rotation and the Pre Feed Roller is raised upwards along with the Original Stopper. The upper original is fed to the Paper Feed Roller (679), and the Separation Rubber (428) prevents multiple feeding.

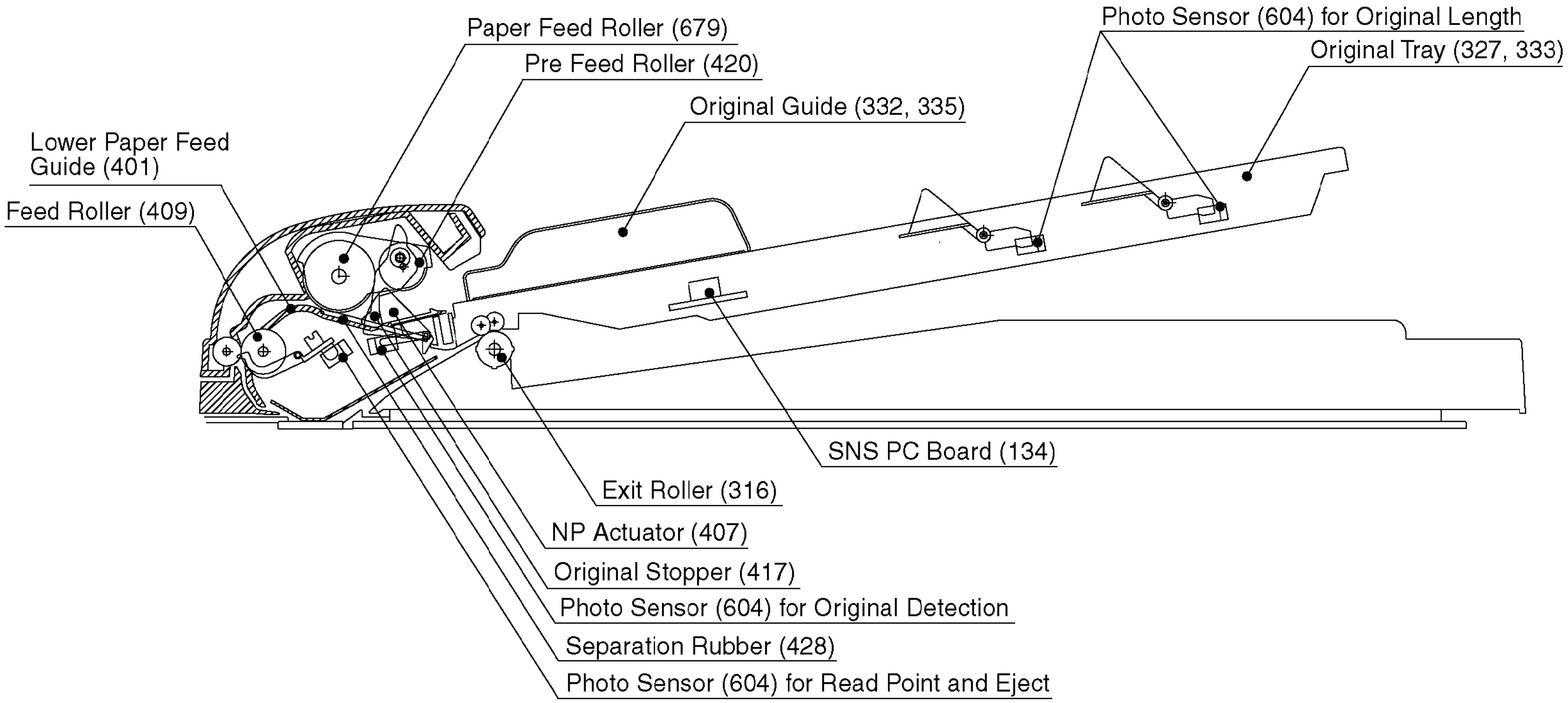
4. **Transmission and Ejection**

   The original is fed into the Feed Roller (409) and when the original actuates the Photo Sensor (604) for Read Point and Eject, the Paper Feed Roller (679) stops rotating. The Photo Sensor (604) for Read Point and Eject detects the scanning position and the Feed Roller (409) transports the original while scanning. The Exit Roller (316) feeds and ejects the original out of the ADF. If there are additional originals on the ADF, the next one is fed into the feeder.

5. **Final Operation**

   After ejecting the last original on the ADF, the Clutch reverses the direction of rotation raising the Original Stopper to its standby position.

Automatic Document Feeder


Paper Feed Roller (679)
Pre Feed Roller (420)
Original Guide (332, 335)
Photo Sensor (604) for Original Length
Original Tray (327, 333)
Lower Paper Feed Guide (401)
Feed Roller (409)
SNS PC Board (134)
Exit Roller (316)
NP Actuator (407)
Original Stopper (417)
Photo Sensor (604) for Original Detection
Separation Rubber (428)
Photo Sensor (604) for Read Point and Eject

6.3. Inverting Automatic Document Feeder

The i-ADF automatically inverts two-sided original(s) for faxing or copying of the second side. This feature enables machines with a duplexer mounted to perform duplex copying.
An i-ADF (Inverting Automatic Document Feeder) functions in a similar manner as the ADF (Automatic Document Feeder), with the main exception being the document eject path after scanning. The following is the description of the main differences.
For DP-2010E only.

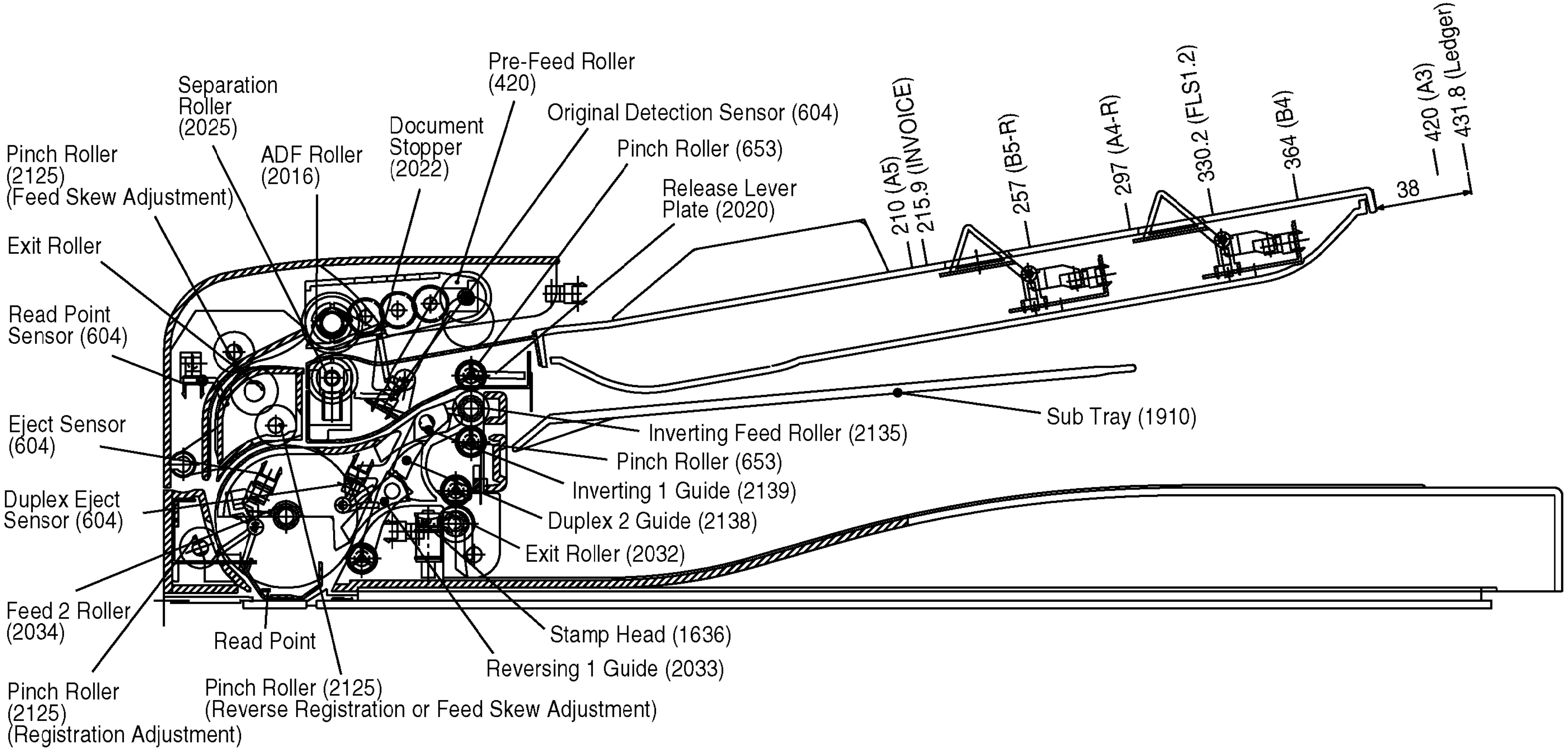
1. **Switching from the ADF mode to the i-ADF mode**
   After passing through the Read Point Sensor (604), the path of the original is switched over by the Duplex 2 Guide (2138), to the Exit Roller or to the Inverting Feed Roller (2135).For single-side scanning, the Duplex 2 Guide is rotated clockwise by the Solenoid guiding the original to the Exit Roller. For double-side scanning, the Duplex 2 Guide is rotated counter-clockwise by the Solenoid guiding the original to the Inverting Feed Roller (2135).The Duplex 2 Guide moves only once, in the direction according to whether a single or double-side scanning is selected (Copier or Fax) before the Start button is pressed. It will remain in this position until a different operation is performed (i.e. if the last operation was 2-sided scanning, a single-side scanning is performed).

2. **Scanning the Front and the Back Side of an Original**
   The scanning of the Front and Back side of a 2-sided original is accomplished by means of the Duplex 2 Guide (2138) and Inverting 1 Guide (2139).
   After the Front side of the original is scanned, the original is transported through the Duplex 2 Guide, through the Inverting 1 Guide (2139) that was rotated counter-clockwise by the Solenoid and is carried beyond the Inverting Feed Roller (2135) and upper Pinch Rollers (653) into the Sub Tray (1910).
   The original is carried for a specified period of time after the trailing edge of the original triggers the Duplex Eject Sensor (604) and stops within 10 to 20 mm from exiting the rollers.
   Then, the Inverting 1 Guide is rotated clockwise by the Solenoid and the reverse rotation of the ADF Motor pulls the original back around the Feed 2 Roller (2034) and proceeds to scan the Back side of the original.
   After the Back side is scanned, the original is transported through the Duplex 2 Guide, through the Inverting 1 Guide and is carried beyond the Inverting Feed Roller and lower Pinch Rollers (653) this time, into the Sub Tray, again stopping 10 to 20 mm from exiting the rollers.

3. **Eject by Reverse Rotation**
   For the originals to stack properly, the above process repeats one more time. The Inverting 1 Guide is rotated clockwise by the Solenoid and the reverse rotation of the ADF Motor pulls the original back around the Feed 2 Roller, however, this time the original is routed to the Exit Roller (2032) and exits into the ADF Base.

4. **Sub Tray**
   The Inverting ADF system includes a Sub Tray (1910), which supports the originals during the ejection mode of the double-side scanning operation.
   The Release Lever Plate grasps the originals and prevents them from being ejected into the Sub Tray.

Inverting Automatic Document Feeder

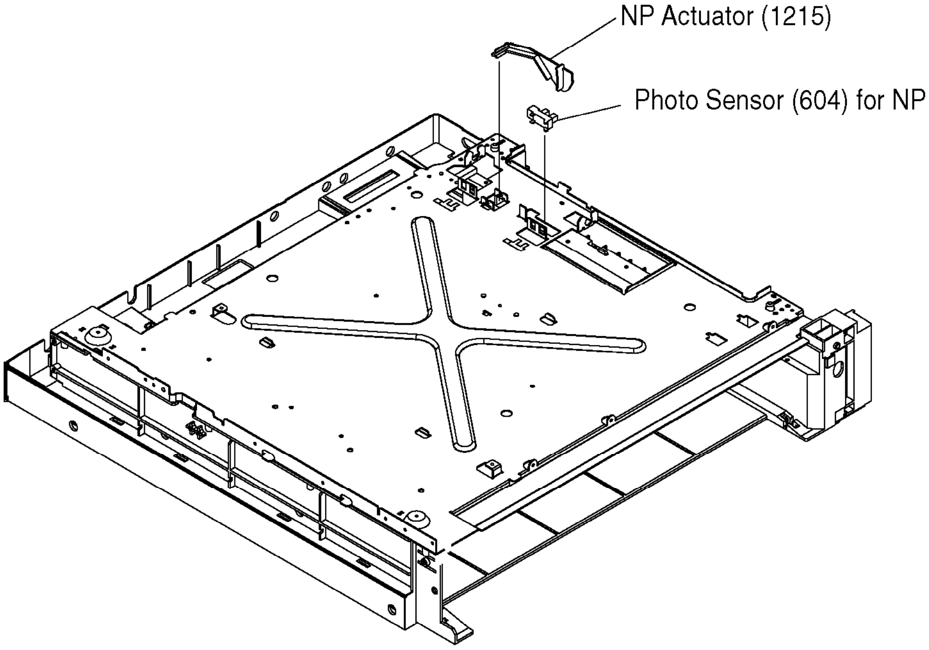

Pre-Feed Roller (420)
Separation Roller (2025)
Document Stopper (2022)
Original Detection Sensor (604)
ADF Roller (2016)
Pinch Roller (653)
Pinch Roller (2125) (Feed Skew Adjustment)
Release Lever Plate (2020)
Exit Roller
Read Point Sensor (604)
Eject Sensor (604)
Duplex Eject Sensor (604)
Feed 2 Roller (2034)
Read Point
Pinch Roller (2125) (Registration Adjustment)
Pinch Roller (2125) (Reverse Registration or Feed Skew Adjustment)
Reversing 1 Guide (2033)
Stamp Head (1636)
Exit Roller (2032)
Duplex 2 Guide (2138)
Inverting 1 Guide (2139)
Pinch Roller (653)
Inverting Feed Roller (2135)
Sub Tray (1910)
210 (A5)
215.9 (INVOICE)
257 (B5-R)
297 (A4-R)
330.2 (FLS1.2)
364 (B4)
420 (A3)
431.8 (Ledger)
38

6.4. Receive Mechanism

6.4.1. Paper Feed Modules

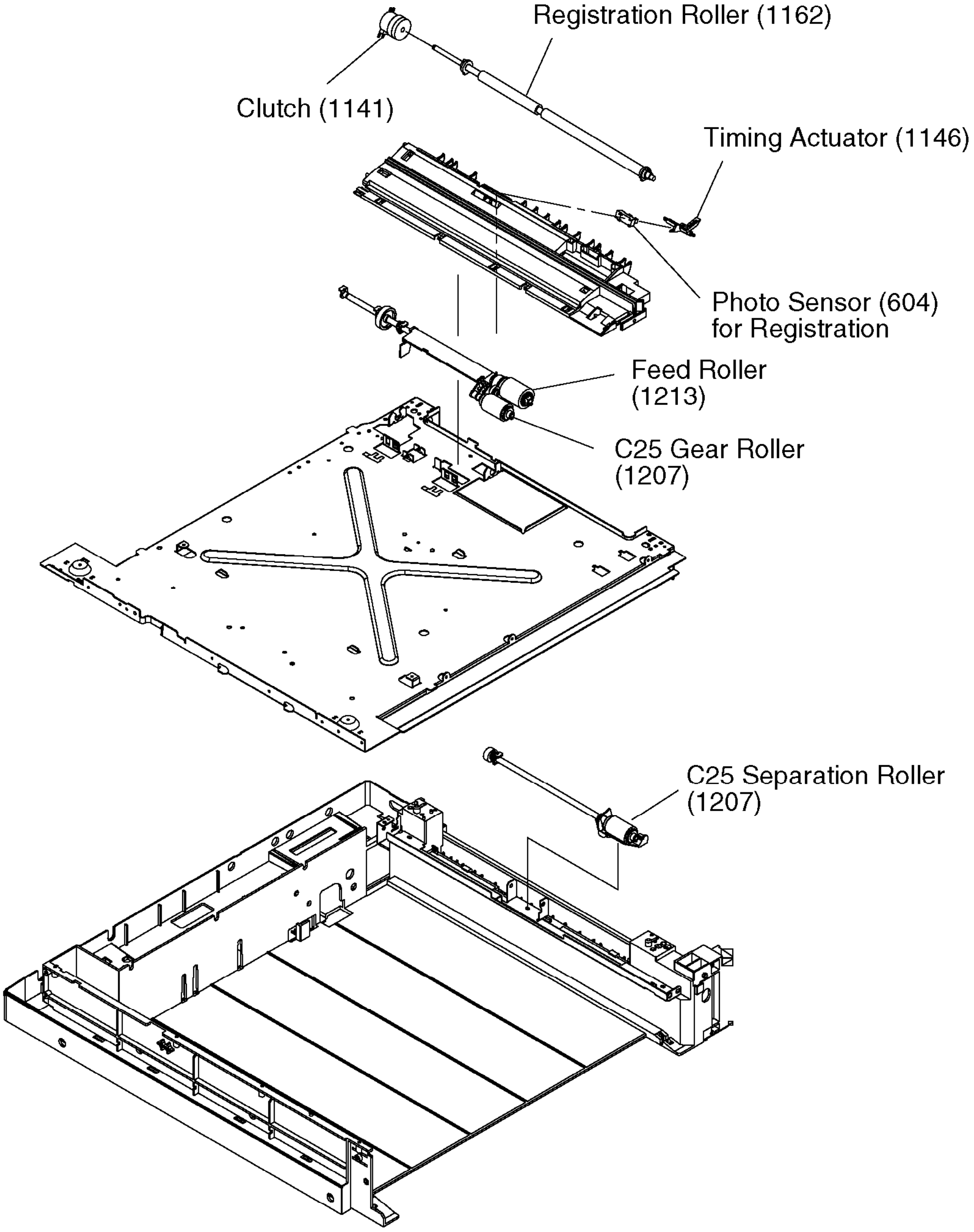
1. Paper Feed Module

< NP Sensor Operation >



a. The NP Actuators (1215) attached to the Paper Feed Block determine if there is Recording Paper in the Recording Paper Tray.
b. The Recording Paper in the Recording Paper Tray lifts up the NP Actuator, allowing the light from the LED to actuate the Photo Sensor (604) for NP.

< Paper Feed Module Operation >


Registration Roller (1162)
Clutch (1141)
Timing Actuator (1146)
Photo Sensor (604)
for Registration
Feed Roller
(1213)
C25 Gear Roller
(1207)
C25 Separation Roller
(1207)

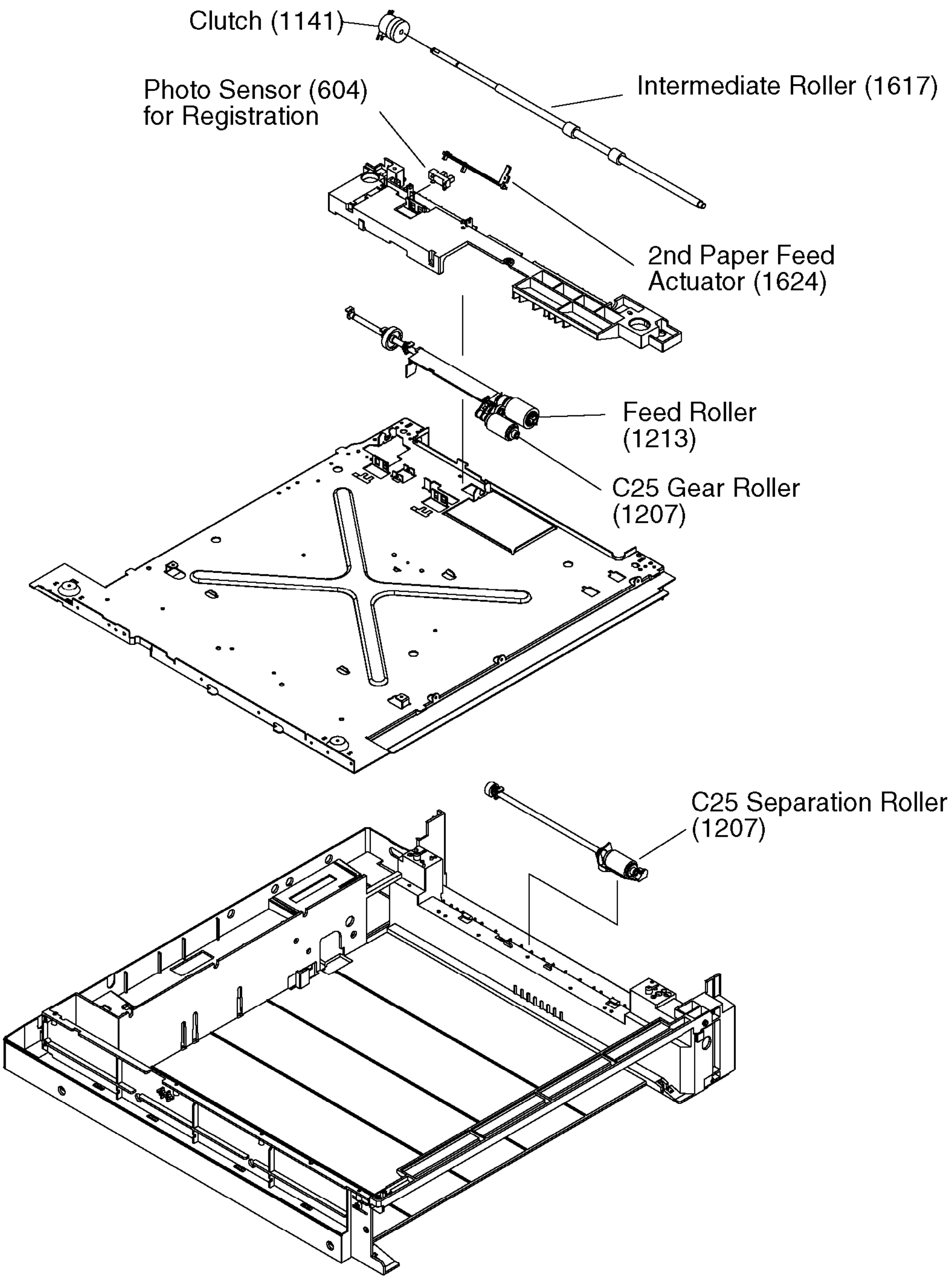
a. When the printing operation begins, the Drive Motor (1105) starts driving the Gears.

b. The Clutch (1224) is energized for a specified period of time and turns ON. This activates the Feed Roller (1213). The Recording Paper is separated into individual sheets by the C25 Separation Roller (1207) and is transported.

c. The Recording Paper is transported to the Registration Roller (1162), activating the Photo Sensor (604) for Registration. After a specified period of time, the Clutch (1141) is turned ON and the Registration Roller (1162) and the Registration Pinch Roller start rotating. The Recording Paper is transported to the OPC drum area.

d. The Recording Paper passes through the Photo Sensor (604) for Read Point and after a specified period of time, the Clutch (1224) is turned OFF. The Registration Roller and the Registration Pinch Roller stop rotating.

< Paper Feed Module (Optional) Operation >


Clutch (1141)
Photo Sensor (604)
for Registration
Intermediate Roller (1617)
2nd Paper Feed
Actuator (1624)
Feed Roller
(1213)
C25 Gear Roller
(1207)
C25 Separation Roller
(1207)

a. When the printing operation begins, the Drive Motor (1105) starts driving the Gears.
b. The Clutch (1224) is energized for a specified period of time and turns ON. This activates the Feed Roller (1213). The recording paper is separated into individual sheets by the C25 Separation Roller (1207) and transported by the Intermediate Roller (1617).
c. The Recording Paper is transported to the Registration Roller (1162), activating the Photo Sensor (604) for Registration. After a specified period of time, the Clutch (1141) is turned ON and the Registration Roller (1162) starts rotating. The recording paper is transported to the OPC drum area.
d. The Recording Paper passes through the Photo Sensor (604) for Registration and after a specified period of time, the Clutch (1141) is turned OFF. The Registration Roller and the Registration Pinch Roller stop rotating.

< Paper Feed Module Lift up Mechanism >

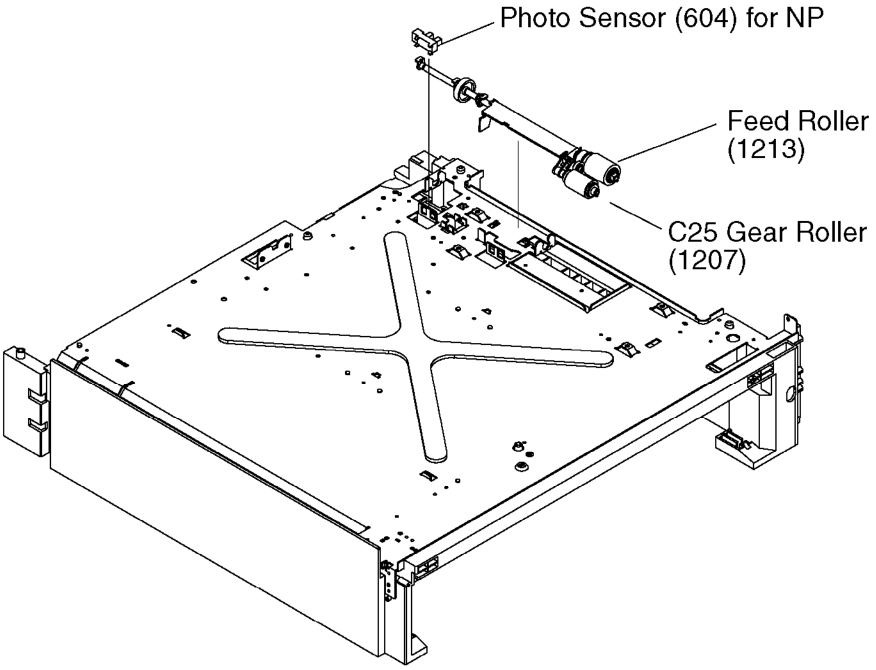
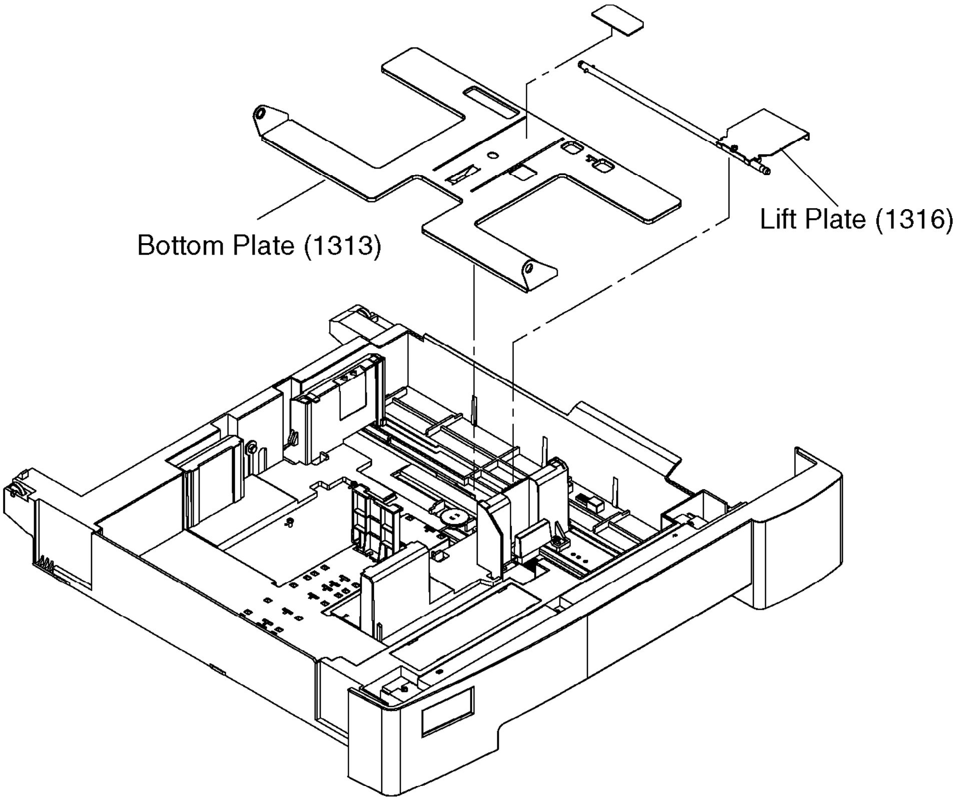


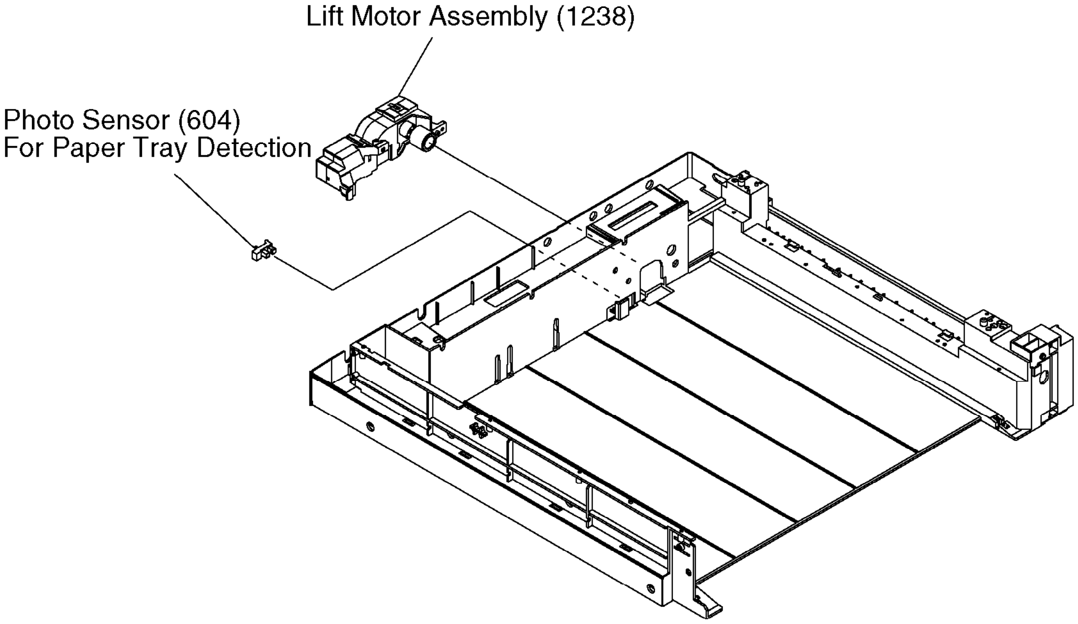
Photo Sensor (604) for NP
Feed Roller
(1213)
C25 Gear Roller
(1207)


Bottom Plate (1313)
Lift Plate (1316)

a. When inserting the Paper Tray into the machine, the Photo Sensor (604) for NP activates. At the same time, the Lift Plate (1316) is combined with the coupling which drives the Lift Plate of the machine. The Lift Plate rotates, lifting the Bottom Plate (1313) and the Recording Paper.

b. Once the Bottom Plate and the Recording Paper are raised, the Photo Sensor (604) for NP is turned ON. The Lift Motor (1229) stops rotating, maintaining the Recording Paper at the certain level.

< Paper Feed Module Recording Paper Size Setting >


Lift Motor Assembly (1238)
Photo Sensor (604)
For Paper Tray Detection

a. The Recording Paper size in the Paper Feed Module is set on the Control Panel.

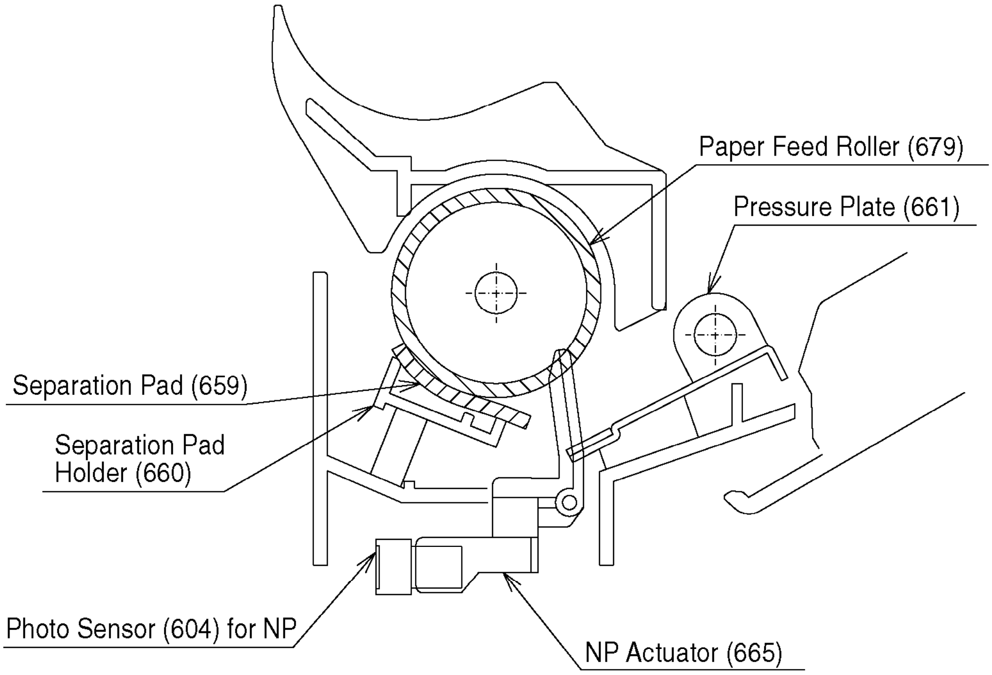
2. Sheet Bypass

< NP Sensor Operation >

a. The NP Actuator attached to the Paper Feed Unit determines if there is Recording Paper in the paper tray.

b. The Recording Paper in the paper tray lowers the NP Actuator and the Photo Sensor (604) for NP actuates.

< Sheet Bypass Operation >



a. When the printing operation begins, the PRINT (Print Request Signal) turns On and the Drive Motor (1105) starts driving the Gears.

b. After a specified period of time, the Solenoid is turned ON and the Clutch (1141) is energized to activate the Paper Feed Roller (679) and the Cam. The Recording Paper is raised by the Pressure Plate (661) and transported to the Separation Pad (659). The Recording Paper is separated into individual sheets by the Separator Pad Holder (660).

c. The Recording Paper is transported to the Registration Roller (1162), activating the Photo Sensor (604) for Registration.

d. After a specified period of time, the Clutch (1141) is turned ON and the Registration Roller (1162) and the Registration Pinch Roller start rotating. The Recording Paper is transported to the OPC drum direction.

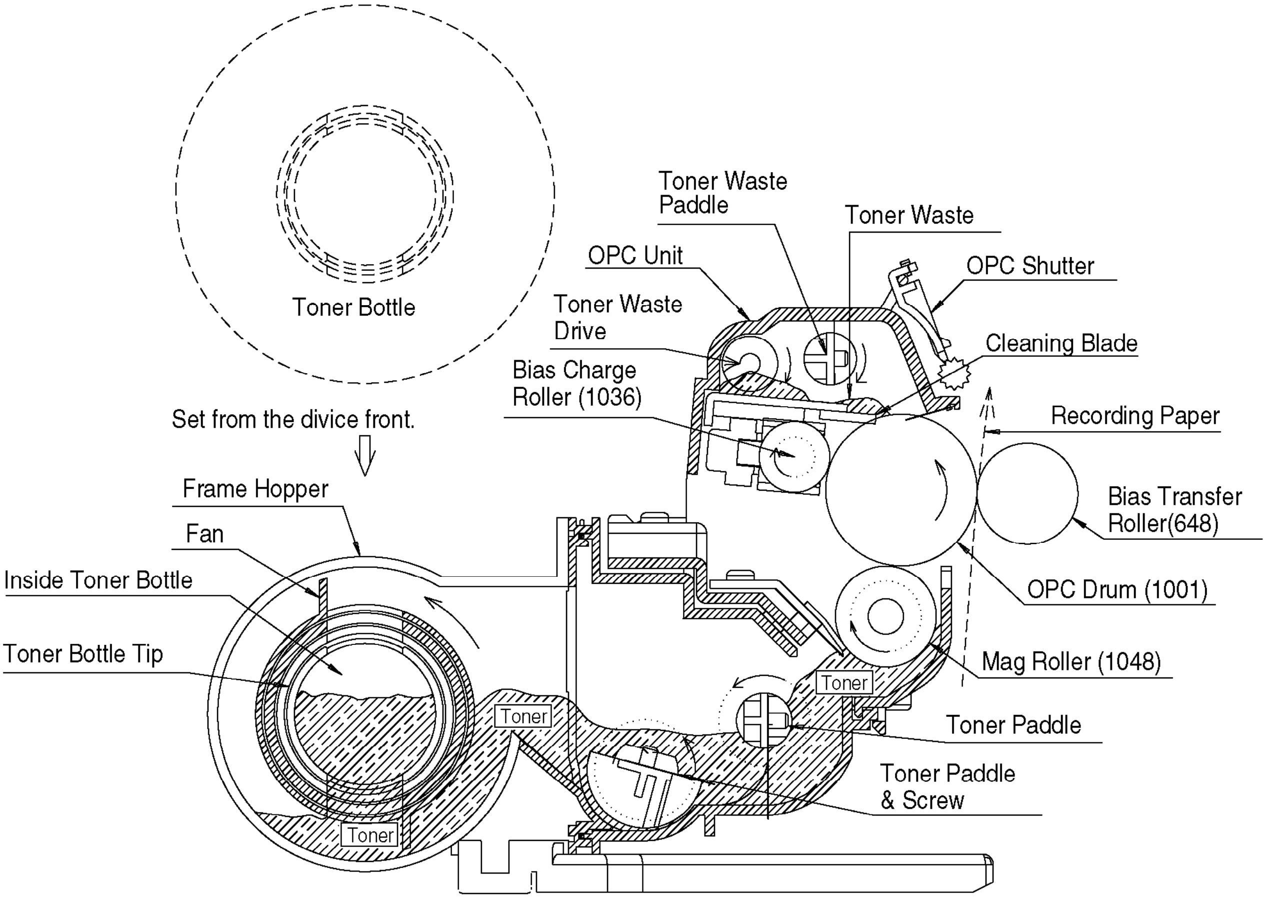
e. After the trailing edge of the paper passes the Photo Sensor (604) for Registration and after a specified period of time, the Clutch (1141) is turned OFF. The Registration Roller and the Registration Pinch Roller stop rotating.

6.4.2. Printing Process Operation

The Printing Process Operation consists of Process Unit and Toner Bottle with Toner supplied. Toner is supplied to the Process Unit using gravity.

The Process Unit includes the Toner Paddle and Mag Roller (1048) that supplies Toner to the OPC Drum (1001).

The Cleaning Blade is attached to the OPC Unit. The Cleaning Blade scrapes the OPC Drum surface to remove the excess toner on the surface of the OPC Drum into the Toner Waste Chamber. The removed toner is moved into the Toner Waste Container by means of Toner Waste Paddle and Toner Waste Drive.


Toner Bottle
Set from the divice front.
Frame Hopper
Fan
Inside Toner Bottle
Toner Bottle Tip
Toner
Toner
Toner
Toner Waste Paddle
Toner Waste
OPC Unit
OPC Shutter
Toner Waste Drive
Cleaning Blade
Bias Charge Roller (1036)
Recording Paper
Bias Transfer Roller(648)
OPC Drum (1001)
Mag Roller (1048)
Toner Paddle
Toner Paddle & Screw

Process Unit

Charge

In the dark, the Bias Charge Roller (1036) applies a high, uniform negative charge to the surface of the OPC Drum. The surface potential is approximately -560 VDC and remains because the drum has a high electric resistance in the dark.

Exposure

A portion of the laser beam is deflected to the timing sensor [Beam Detection (BD) Sensor], which controls the start timing of scanning on the OPC Drum. The CPU also uses the timing sensor to detect abnormal signals. The light beam from the laser diode is modulated by the digital signal and converted to parallel light waves by the collimator lens. The beam is then directed to the rotating polygon mirror, where it is reflected to the f-θ lens and then focused onto the OPC Drum surface. The laser beam moves across the surface of the OPC Drum in the scanning direction. Where the laser beam is applied, the negative charge on the drum dissipates, and where the laser is not applied, the negative charge remains. This action forms a latent, electrostatic image on the OPC Drum, corresponding to the original image.

Development

This development process uses a conventional method, where toner coats a Mag Roller and transfers to the latent image on the OPC Drum. In the Process Unit, the (mono-component) toner is negatively charged by the friction between the rotating Mag Roller (1036) and the Dr. Blade Assembly (1040). This combination and the rotation of the Mixing Blade transfers the toner from the reservoir and forms a brush effect on the Mag roller. Where the magnetic brush lightly touches the OPC Drum, the negatively charged toner is attracted to the latent image on the drum, forming a mirror image of the original on the drum. Any remaining toner is removed from the Mag Roller by the Dr. Blade and is recycled back into the toner reservoir. A bias voltage of approximately 1.65 kVACp-p at 1.8 kHz, riding on a -430 VDC bias is applied to the magnetic brush to achieve maximum print quality.

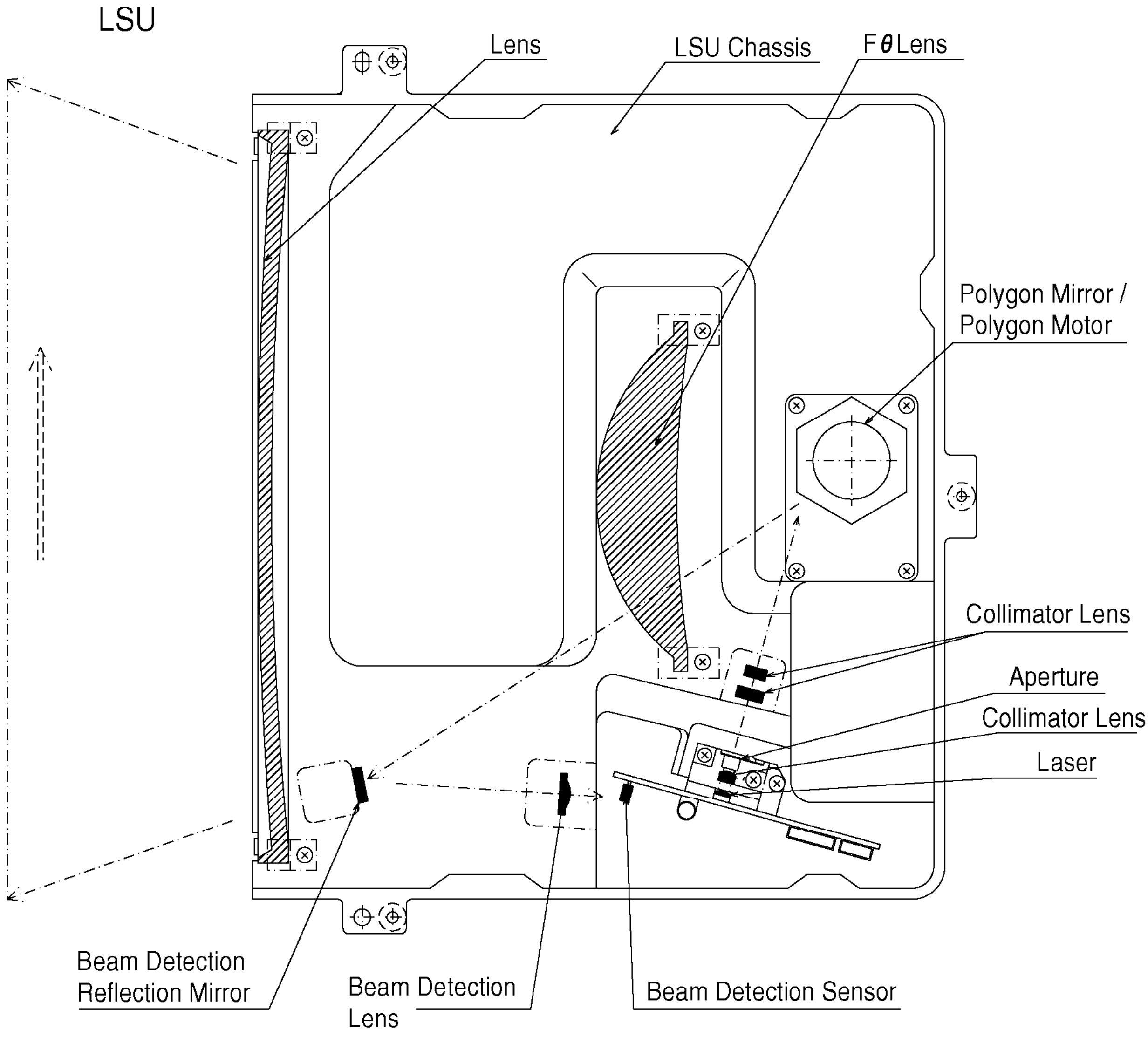
Transfer and Separation

As the paper is fed between the OPC Drum and the Bias Transfer Roller (BTR) (648), a positive charge of approximately +1400 VDC (+10 µA steady current) is applied to the backside of the paper by the BTR. The toner particles are attracted away from the drum towards the surface of the paper. During cleaning, the BTR is charged to approximately -800 VDC to repel toner on the OPC Drum and prevent toner from being attracted to the BTR. After transfer has occurred, the paper passes over the Discharge Plate 3 (655) in the Transfer Guide Assembly, reducing the difference of potential between the OPC Drum and the paper. The stiffness of the paper causes the paper to separate from the drum.

Cleaning

After transfer, some toner may remain on the surface of the OPC Drum. A Cleaning Blade scrapes the OPC Drum surface, and the removed toner is moved into the Toner Waste Container, outside the Process Unit.

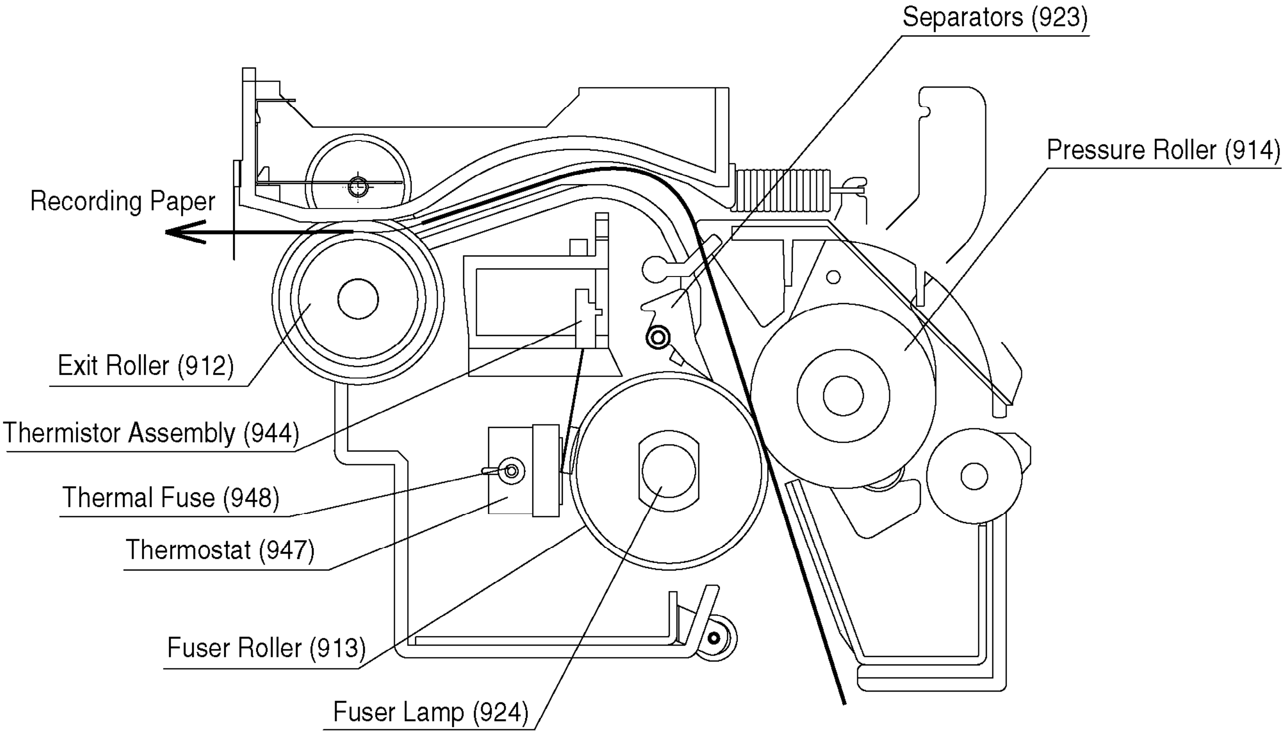
6.4.3. Laser Unit


LSU
Lens
LSU Chassis
FθLens
Polygon Mirror / Polygon Motor
Collimator Lens
Aperture
Collimator Lens
Laser
Beam Detection Reflection Mirror
Beam Detection Lens
Beam Detection Sensor

1. **Laser**
   This Laser uses the semiconductor laser. The beam power on the drum surface is approximately 0.20 mW.
2. **Collimator Lens**
   This lens converges and focuses the laser beam, converting it to parallel light.
3. **Aperture**
   This controls the size of the laser beam.
4. **Polygon Mirror and Polygon Motor**
   The polygon scanner consists of a 6-sided mirror, directly driven by a DC motor, revolving at 24,000 rpm. The laser beam is reflected against these mirrors and swept over the recorded width in the scanning direction.
5. **Beam Detection (BD) Lens and Beam Detection (BD) Sensor**
   The BD Lens receives the reflected light from the Polygon Mirror and redirects it into the BD Sensor, which converts the laser beam into electrical signals and sets the start timing for the scanning line.
6. **F-θ Lens**
   This amorphous plastic, molded lens is designed to provide parallel laser light across the surface of the drum, providing a constant scanning speed.
7. **Lens**
   This corrects the skew of each side on the Polygon Mirror.

6.4.4. Fuser Operation

The Recording Paper passes through the Fuser Roller (913) and is subjected to heat and pressure in the Fuser Unit. Pressure between the Fuser Roller (913) and Pressure Roller (914) fuses or bonds the toner into the paper.


Separators (923)
Pressure Roller (914)
Recording Paper
Exit Roller (912)
Thermistor Assembly (944)
Thermal Fuse (948)
Thermostat (947)
Fuser Roller (913)
Fuser Lamp (924)

Fuser Roller (913)
A Teflon coated roller supplies heat for bonding the toner to the paper. The temperature of the surface is kept constant at approximately 178°C (± 10°C) (or 352°F).

Fuser Lamp (924)
Located in the Fuser Roller (913) are Fuser Lamp (924) that serve as the heat source for the Fuser Roller (913).

Thermistor Assembly (944)
A heat sensitive resistor, in contact with the Fuser Roller (913), monitors the surface temperature and keeps the temperature at the specified level by controlling the Fuser Lamp (924).

Thermostat (947) and Thermal Fuse (948)
The Thermostat (947) and the Thermal Fuse (948) are installed in the Fuser Roller (913), providing an extra overheat protection.

Drive Motor (1105)
The Drive Motor (1105) provides the driving force to the Fuser Roller (913) through the Fuser Roller Gears.

Pressure Roller (914)
This converted PFA tube Silicon Rubber Roller applies pressure to the Fuser Roller, assisting in bonding the toner to the paper.

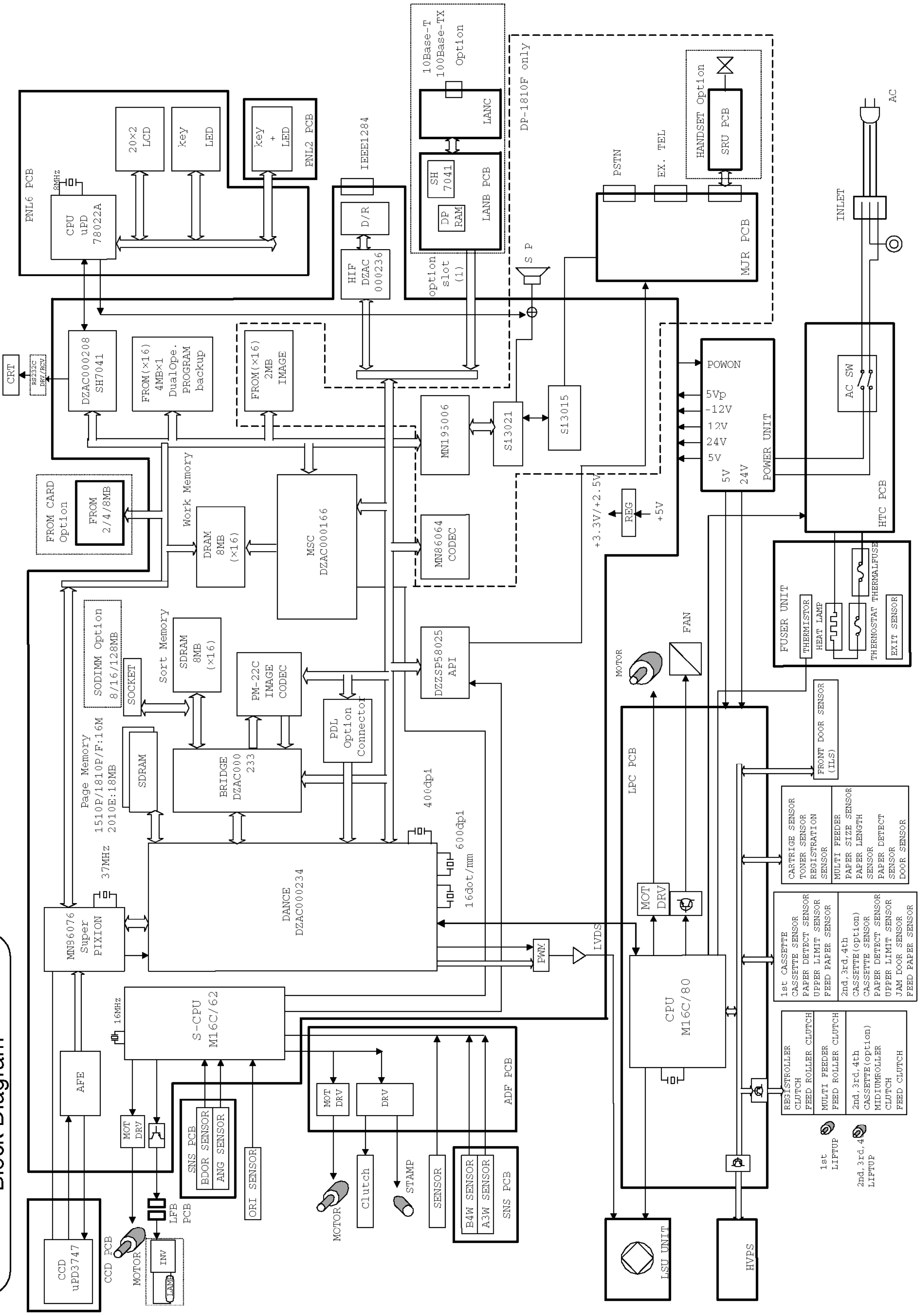
Separators (923)

Five Separators (923) are installed in the Fuser Roller (913). This prevents the recording paper from wrapping around the Fuser Roller (913), causing a paper jam.

When the Fuser Unit does not reach the specified temperature within a certain period of time, an Error code is shown on the display, stopping the operation.
When the Thermistor Assembly (944) is disconnected or the surface temperature of the Fuser Roller (913) is out of limit, an Error code is shown on the display, stopping the operation.

6.5. Electrical Circuit Explanation

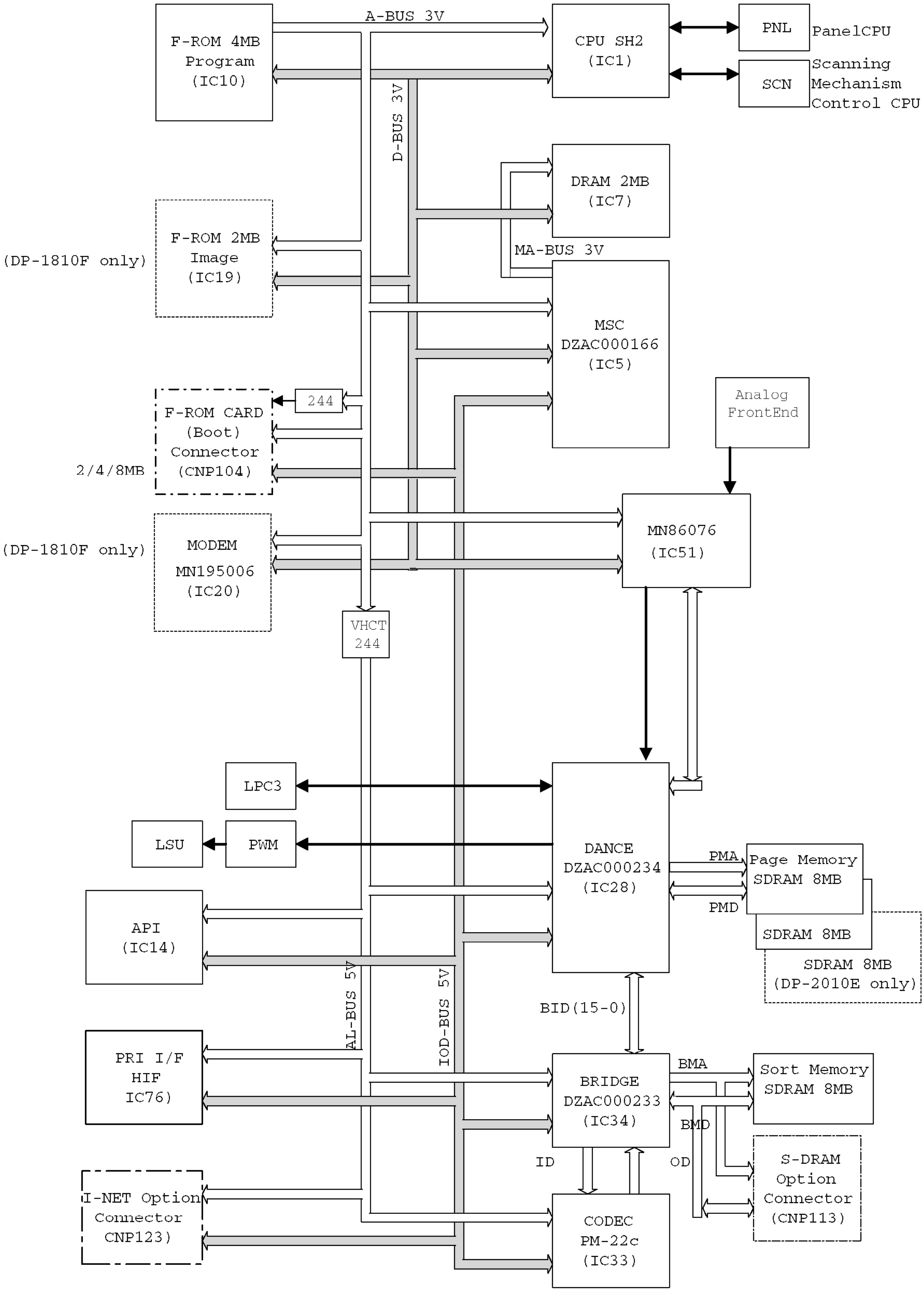
6.5.1. Block Diagram


PNL6 PCB
8MHz
CPU uPD 78022A
20×2 LCD
key LED
key + LED
PNL2 PCB
IEEE1284
D/R
HIF DZAC 000236
10Base-T 100Base-TX Option
LANC
SH 7041
DP RAM
LANB PCB
option slot (1)
DP-1810F only
HANDSET Option
SRU PCB
PSTN
EX. TEL
MJR PCB
S P
AC
INLET
CRT
RS232C DRV/RCV
DZAC000208 SH7041
FROM(×16) 4MB×1 DualOpe. PROGRAM backup
FROM(×16) 2MB IMAGE
MN195006
S13021
S13015
POWON
5Vp
-12V
12V
24V
5V
5V
24V
POWER UNIT
AC SW
HTC PCB
FROM CARD Option
FROM 2/4/8MB
Work Memory
DRAM 8MB (×16)
MSC DZAC000166
MN86064 CODEC
+3.3V/+2.5V
REG
+5V
FUSER UNIT
THERMISTOR
HEAT LAMP
THERMOSTAT
THERMALFUSE
EXIT SENSOR
SODIMM Option 8/16/128MB
SOCKET
Sort Memory
SDRAM 8MB (×16)
PM-22C IMAGE CODEC
PDL Option Connector
DZZSP58025 API
MOTOR
FAN
FRONT DOOR SENSOR (ILS)
Page Memory 1510P/1810P/F:16M 2010E:18MB
SDRAM
BRIDGE DZAC000 233
400dpi
600dpi
16dot/mm
LPC PCB
CARTRIGE SENSOR
TONER SENSOR
REGISTRATION SENSOR
MULTI FEEDER PAPER SIZE SENSOR
PAPER LENGTH SENSOR
PAPER DETECT SENSOR
DOOR SENSOR
37MHz
MN86076 Super PIXION
DANCE DZAC000234
MOT DRV
PWM
LVDS
1st CASSETTE
CASSETTE SENSOR
PAPER DETECT SENSOR
UPPER LIMIT SENSOR
FEED PAPER SENSOR
2nd,3rd,4th CASSETTE(option)
CASSETTE SENSOR
PAPER DETECT SENSOR
UPPER LIMIT SENSOR
JAM DOOR SENSOR
FEED PAPER SENSOR
CPU M16C/80
16MHz
S-CPU M16C/62
AFE
MOT DRV
ADF PCB
MOT DRV
DRV
REGISTROLLER CLUTCH
FEED ROLLER CLUTCH
MULTI FEEDER FEED ROLLER CLUTCH
2nd,3rd,4th CASSETTE(option) MIDIUMROLLER CLUTCH
FEED CLUTCH
SNS PCB
BDOR SENSOR
ANG SENSOR
ORI SENSOR
MOTOR
Clutch
STAMP
SENSOR
B4W SENSOR
A3W SENSOR
SNS PCB
1st LIFTUP
2nd,3rd,4th LIFTUP
LFB PCB
CCD uPD3747
CCD PCB
MOTOR
INV
LAMP
LSU UNIT
HVPS

DP-1510P/1810P/1810F/2010E
Block Diagram

6.5.2. System Control Circuit

The System Control Block consists of the following IC that control the general functions.


A-BUS 3V
F-ROM 4MB Program (IC10)
CPU SH2 (IC1)
PNL
PanelCPU
SCN
Scanning Mechanism Control CPU
D-BUS 3V
DRAM 2MB (IC7)
MA-BUS 3V
(DP-1810F only)
F-ROM 2MB Image (IC19)
MSC DZAC000166 (IC5)
244
F-ROM CARD (Boot) Connector (CNP104)
2/4/8MB
Analog FrontEnd
MN86076 (IC51)
(DP-1810F only)
MODEM MN195006 (IC20)
VHCT 244
LPC3
LSU
PWM
DANCE DZAC000234 (IC28)
PMA
PMD
Page Memory SDRAM 8MB
SDRAM 8MB
SDRAM 8MB (DP-2010E only)
API (IC14)
AL-BUS 5V
IOD-BUS 5V
BID(15-0)
PRI I/F HIF IC76)
BRIDGE DZAC000233 (IC34)
BMA
BMD
Sort Memory SDRAM 8MB
ID
OD
S-DRAM Option Connector (CNP113)
I-NET Option Connector CNP123)
CODEC PM-22c (IC33)

1. System CPU

The System CPU (SH7041) is a 32-bit RISC (Reduced Instruction Set Computer) type of CPU and DMA Control, Serial Communication Port, Timer Control, Interrupt Control, DRAM Control, and I/O Port are integrated into 1 chip. Mask ROM (64k byte) is already installed and it controls the Monitor, High Speed managing Task and Boot Programming.

- **Serial Communication Port**
  It has a 2ch Serial Communication Port and is used to interface the following devices.
  CPU ←→ Panel Unit (Panel CPU)
  CPU ←→ Sub CPU for scanning (M16C/162)
- **Timer Control**
  It is used to program the standard timer.
- **Interrupt Control**
  It controls receipt & transfer to CPU the interrupt from MSC, Option, etc.
- **DRAM Control**
  It generates DRAM Control Signal and Refresh Control when the power is ON.
- **I/O Port**
  It is used to control lines and reset control around LSI.

2. System Control Gate Array (MSC)

DZAC000166 (MSC) is a System Control Gate Array and provides the CPU peripheral function.

- **DMA Control**
  It has a 4ch DMA Control and is used to transfer data between the following devices.
  Printer Interface ←→ Image Data Memory (DRAM)
- **Interrupt Control**
  It controls receipt & transfer to CPU the interrupt from CODEC and LSI, etc.
- **DRAM Control**
  It selects DRAM Control Signal and generates Control Signal when transferring DMA.
- **BUS Control**
  Data control between System BUS (+3.3V) and I/O BUS (+5V)
- **Address Decoder Control**
  It generates Chip select signal of peripheral LSI.

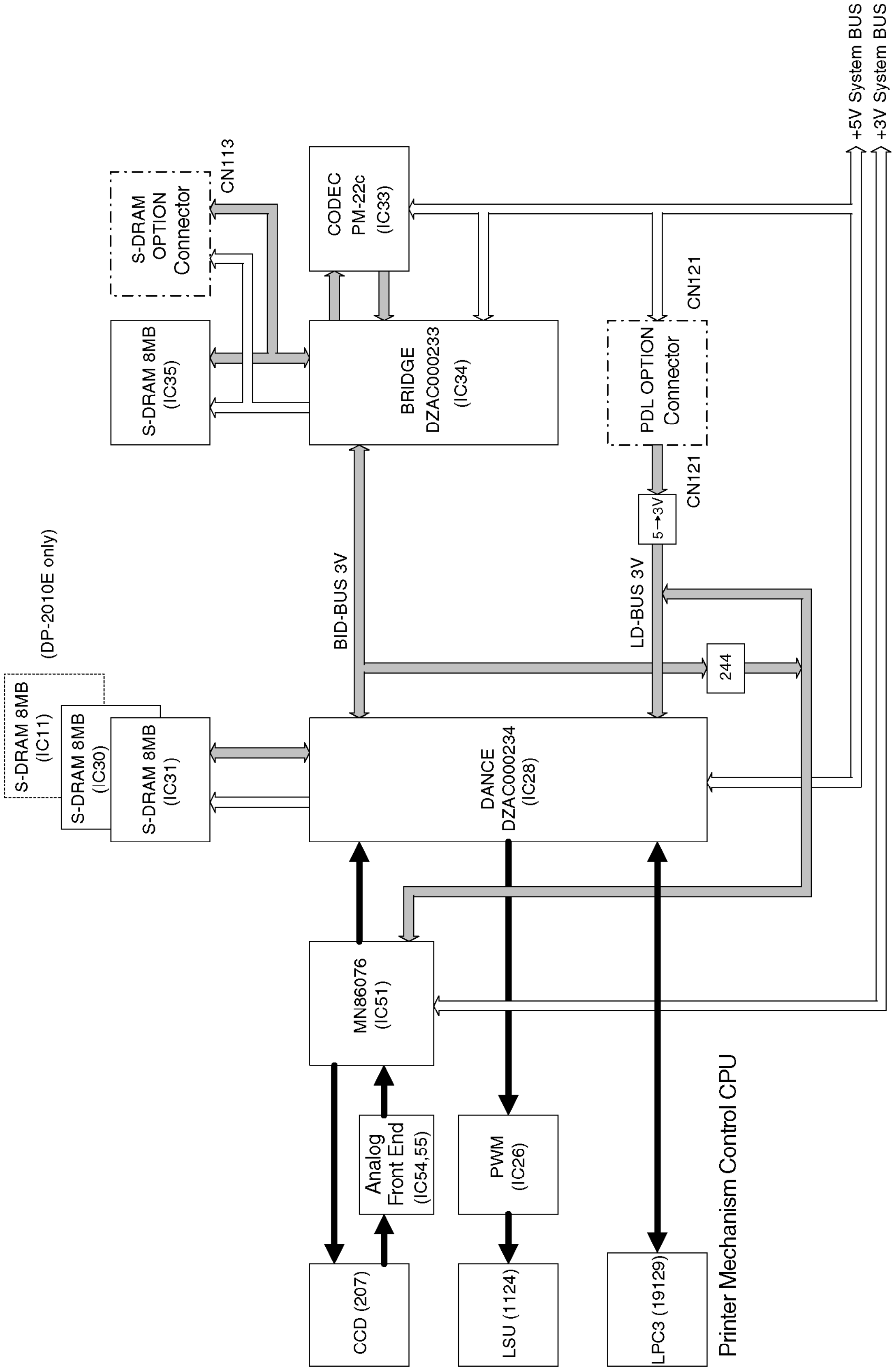
3. System Memory

This system consists of the following memory.

- **F-ROM (IC10)** → **F-ROM (4MB)** for programming
  The program is booted from F-ROM Card or Parallel Port Interface.
- **DRAM (IC7)** → **Work RAM**
- **F-ROM (IC19)** → **F-ROM (2MB)** for image (DP-1810F only).

6.5.3. Image Data Circuit

The Image Data Circuit is independent of System circuit from Page Memory / Sort Memory circuit due to high speed scanning and printing. As a result of this, all image data is managed by the Image Data circuit and only coded data is transferred to the System Data BUS.


+5V System BUS
+3V System BUS
S-DRAM OPTION Connector
CN113
CODEC PM-22c (IC33)
S-DRAM 8MB (IC35)
BRIDGE DZAC000233 (IC34)
PDL OPTION Connector
CN121
CN121
5→3V
BID-BUS 3V
LD-BUS 3V
244
(DP-2010E only)
S-DRAM 8MB (IC11)
S-DRAM 8MB (IC30)
S-DRAM 8MB (IC31)
DANCE DZAC000234 (IC28)
MN86076 (IC51)
Analog Front End (IC54,55)
PWM (IC26)
CCD (207)
LSU (1124)
LPC3 (19129)
Printer Mechanism Control CPU

1. Document Adaptor for New Copier Engine (Gate Array)

DZAC000234 (DANCE) is a Document Adaptor for New Copier Engine (Gate Array) and provides the Image Control peripheral function and Recording Data Control.

- **DMA Control**

  It is used to transfer data between the following devices.

Scanning Control LSI (MN86076) → Page Memory (S-DRAM) : Scanning Route
Page Memory (S-DRAM) → Sort Memory Control Gate Array (BRIDGE) : Coding Route
Sort Memory Control Gate Array (BRIDGE) → Page Memory (S-DRAM) : Decoding Route
Page Memory (S-DRAM) → PMW Control LSI (LP) : Recording Route
System Memory (DRAM) → Page Memory : Report Route

- **Rotation Management**

  The rotation is carried out by the hardware when transferring the route.

Page Memory (S-DRAM) → CODEC for Image (PM-22c) : Rotation (Send)
Page Memory (S-DRAM) → PMW Control LSI (LP) : Copy, Rotation (Receive)

- **S-DRAM Control**

  It generates S-DRAM Control Signal for Page memory and Refresh Control when the power is ON. It does not backup the Page Memory.

- **PDL Data Transfer**

  When installing the PDL Option, the actual coded data is retrieved on the PDL side first and is transferred to Page Memory (S-DRAM). Then, the coded data is transferred to the PDL Option on the System side.

- **Binary Gray Scale Conversion**

  The signal of a binary-level image such as copying is converted into a multiple-value (256-scale) image signal. The signal is transferred to an external PWM control LSI for multiple-value recording.

  A maximum of 7-by-7 pixels around an area is referred to in layers for conversion into multiple-value signal.

- **Gray-Level Enhancement**

  This control function allows expressing higher-level scales than using a recorded signal, by reducing line density into 1/2 or 1/3 on the original after binary-to-multiple value conversion. This capability increases reproduction of gray scale images such as photographs.

- **Laser Pulse Width Control**

  After smoothing, the IPC controls Laser pulse width by the software setting of the print quality.

- **Image Range Isolation Circuit**

  It identifies the halftone picture range and controls smoothing, Binary Gray Scale Conversion, and Laser pulse width control to eliminate blotching of the recording picture which has undergone error diffusion or other process.

- **Synchronization Control Circuit**
  This circuit is used to synchronize the output of the recorded data with the horizontal synchronizing output signal from the printer for each line. The IPC controls the resolution of the printer as follows.

16 dot/mm x 15.4 line/mm	:	Report data
15.4 dot/mm x 16 line/mm	:	Report rotation recording data
600 dpi x 600 dpi	:	Copy, Printer Interface & PDL Interface

- **FIFO/S-RAM Control**
  Picture Edit Coding Gate Array uses FIFO for Smoothing & Laser pulse width control, and S-RAM for Smoothing Data and interface controls.
- **Serial Communication Port for LP Interface**
  It provides 1ch Serial Communication Port interface for the Printer Mechanical CPU.

2. SORT Memory Control Gate Array

BRIDGE (DZAC000233) is a SORT Memory Control Gate Array and provides the data transfer control function between Sort Memory Control, DANCE, CODEC for Image, and System.

- **DMA Control**
  It is used to transfer the following data.

Picture Edit/Recording Gate Array (DANCE)	←→	CODEC for Image (PM-22c)	:	Bus Selection
CODEC for Image (PM-22c)	←→	SORT Memory (S-DRAM)	:	Compress, Restore
SORT Memory (S-DRAM)	←→	System Memory (DRAM)	:	PC Scanning

- **S-DRAM Control**
  It generates S-DRAM Control Signal for SORT Memory and Refresh Control when the power is ON. it does not backup the Page Memory.

3. PWM Control LSI

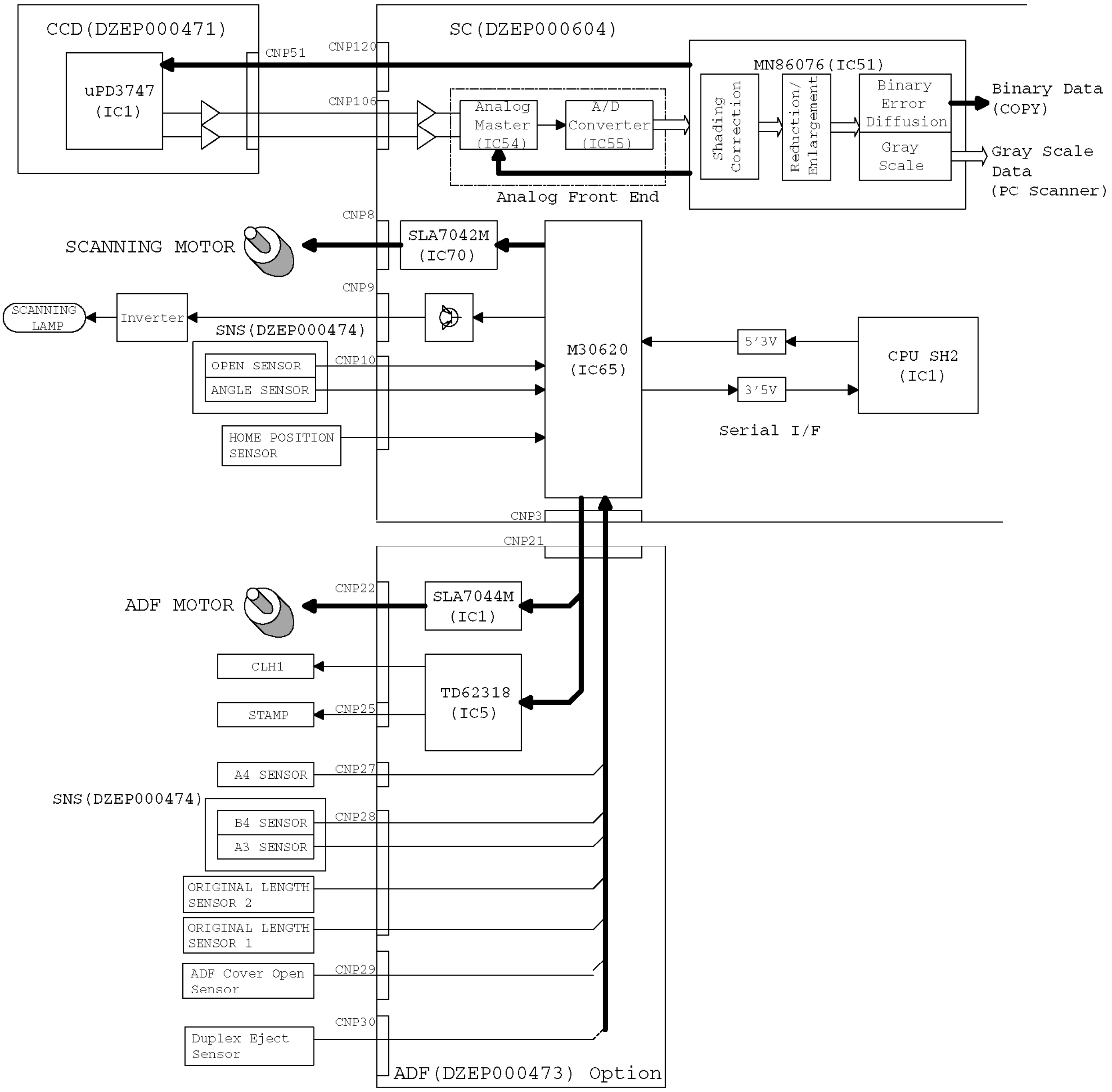
PM-1075 (IC26), which is a PWM control LSI, converts an 8-bit input digital signal into an analog signal with 256-scale pulse width. The conversion allows modulation of pulse width in recorded data, transferring the data to LSU, enabling multiple-value recording.
The pulse width is determined by the Picture Edit/Recording Gate Array (DANCE).
The function performs centering, reading, and trailing edge modulation in the pulse.

4. Optional Memory for Image Side

The Optional Memories are:

- **Memory PC Board (SODIMM)** → **DRAM Card (8/16/128 MB)** for Sort memory
  Install the DRAM Card for Sort memory to CN151 on the SORT PCB.

6.5.4. Scanning Circuit


CCD(DZEP000471)
uPD3747
(IC1)
CNP51
CNP120
CNP106
SC(DZEP000604)
MN86076(IC51)
Analog
Master
(IC54)
A/D
Converter
(IC55)
Analog Front End
Shading
Correction
Reduction/
Enlargement
Binary
Error
Diffusion
Gray
Scale
Binary Data
(COPY)
Gray Scale
Data
(PC Scanner)
CNP8
SCANNING MOTOR
SLA7042M
(IC70)
CNP9
SCANNING
LAMP
Inverter
SNS(DZEP000474)
OPEN SENSOR
ANGLE SENSOR
CNP10
HOME POSITION
SENSOR
M30620
(IC65)
5'3V
3'5V
CPU SH2
(IC1)
Serial I/F
CNP3
CNP21
CNP22
ADF MOTOR
SLA7044M
(IC1)
CLH1
STAMP
CNP25
TD62318
(IC5)
A4 SENSOR
CNP27
SNS(DZEP000474)
B4 SENSOR
A3 SENSOR
CNP28
ORIGINAL LENGTH
SENSOR 2
ORIGINAL LENGTH
SENSOR 1
ADF Cover Open
Sensor
CNP29
CNP30
Duplex Eject
Sensor
ADF(DZEP000473) Option

1. **Scanning LSI**
   MN86076 (IC51) is a Scanning LSI and generates Shading Correction, MTF Correction, Reduction/Enlargement, and Gray Scale Error Diffusion. The Image Signal is converted to binary signal and transported.
2. **Scanning Mechanism Control CPU**
   M30620 is a 16 bit type of CPU that controls scanning mechanism. It controls Scanning Motor, Scanning Lamp, Verification Stamp, Sensor Detection, and Solenoid Drive Control.
3. **Scanning Motor Drive Circuit**
   Scanning Motor Drive Circuit is controlled by SLA7042M and SLA7044M
   (SC PCB IC70, ADF PCB IC1).

6.5.5. Coding

Coding and decoding (MH/MR/MMR/JBIG conversion) is carried out by the hardware codec device.

- **PM-22c (IC33) : for Image Codec**
  It codes or decodes the data transferred from Sort memory. When copying, this codec codes from the Image data to JBIG data.

6.5.6. Option PC Board

1. LANB PC Board (DZEC102530 / DZEC102532) : LAN Communication
   (when the LANB PCB and LANC PCB (DZEC102310) are installed).
   Note:
   Auto-sensing 10/100Base-T Ethernet Interface.
2. EP PC Board (DZEC101696) : PDL Control PCB
   Prints Page Description Language (PDL) data.
   Note:
   PDL PCB must be installed in combination with LANB/PRIF PCB.
3. SDRM PC Board : SDRAM Memory PCB

Sort Memory	8 MB	:	DZEC101554
	16 MB	:	DZEC102306
	128 MB	:	DZEC102307

6.5.7. Sleep Mode

Note:

When the 10/100 Ethernet Interface / Internet Fax Kit is installed, the Sleep Mode is disabled.

This function reduces the power consumption in standby mode. During Sleep Mode, power is supplied only to the Energy Saver Lamp to keep it at a steady ON condition, and to the circuit that monitors it The power is recovered the Energy Saver key is pressed.

Sleep Mode Availability

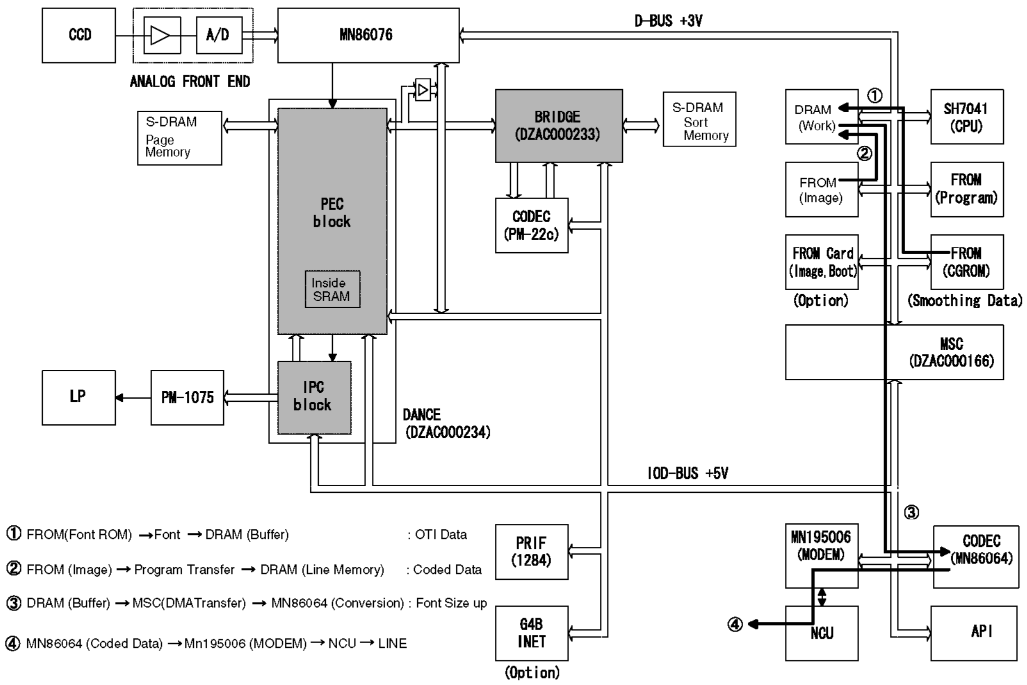
No.	Item	Sleep Mode	Remark
1	10/100 Ethernet Interface/Internet Fax Kit Option is installed	No	
2	When an ALARM Status indication is displayed	No	

Recovers from Sleep Mode

No.	Item	Recovers from Sleep Mode	Remark
1	When Energy Saver key is pressed	Yes	
2	Original Sensor is actuated	Yes	No Document Sensor with Flatbed (ADF option)
3	When printing from a PC	Yes	
4	Platen Cover Open	Yes	
5	Ringer Detect	Yes	DP-1810F only
6	External Telephone Off Hook	Yes	
7	Option Handset Off Hook	Yes	

6.5.8. Signal Routing

1. Memory Transmission (DP-1810F only)


CCD
A/D
ANALOG FRONT END
MN86076
D-BUS +3V
S-DRAM
Page Memory
PEC block
Inside SRAM
BRIDGE (DZAC000233)
S-DRAM
Sort Memory
CODEC (PM-22c)
DRAM (Work)
FROM (Image)
FROM Card (Image, Boot)
(Option)
SH7041 (CPU)
FROM (Program)
FROM (CGROM)
(Smoothing Data)
MSC (DZAC000166)
LP
PM-1075
IPC block
DANCE (DZAC000234)
IOD-BUS +5V
PRIF (1284)
G4B INET
(Option)
MN195006 (MODEM)
CODEC (MN86064)
NCU
API
①
②
③
④

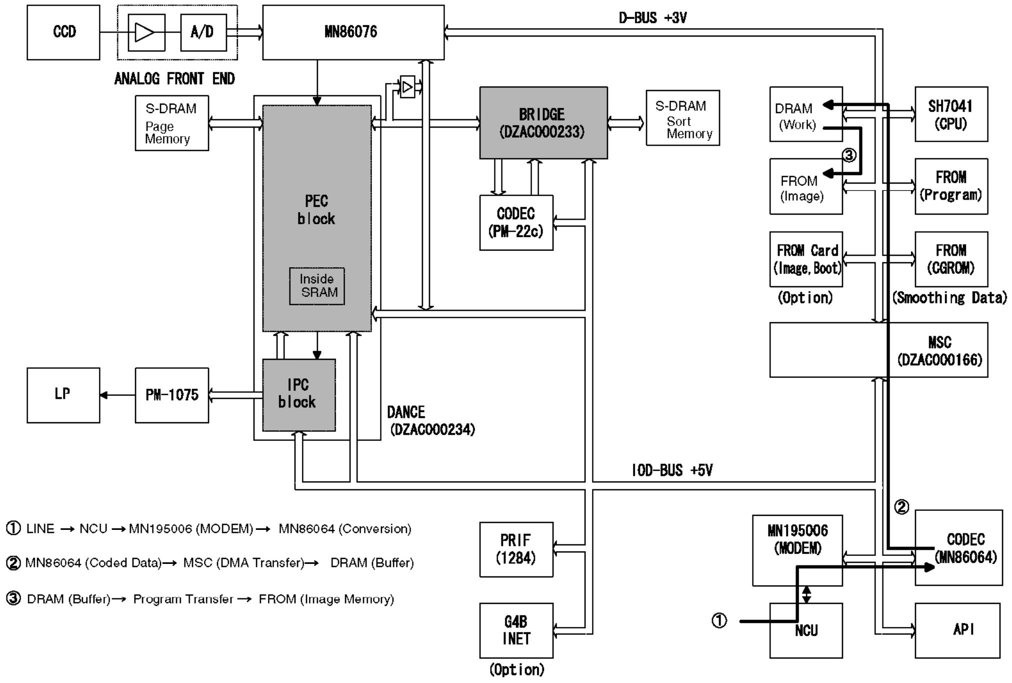
① FROM(Font ROM) → Font → DRAM (Buffer) : OTI Data

② FROM (Image) → Program Transfer → DRAM (Line Memory) : Coded Data

③ DRAM (Buffer) → MSC(DMATransfer) → MN86064 (Conversion) : Font Size up

④ MN86064 (Coded Data) → Mn195006 (MODEM) → NCU → LINE

2. Memory Reception (DP-1810F only)

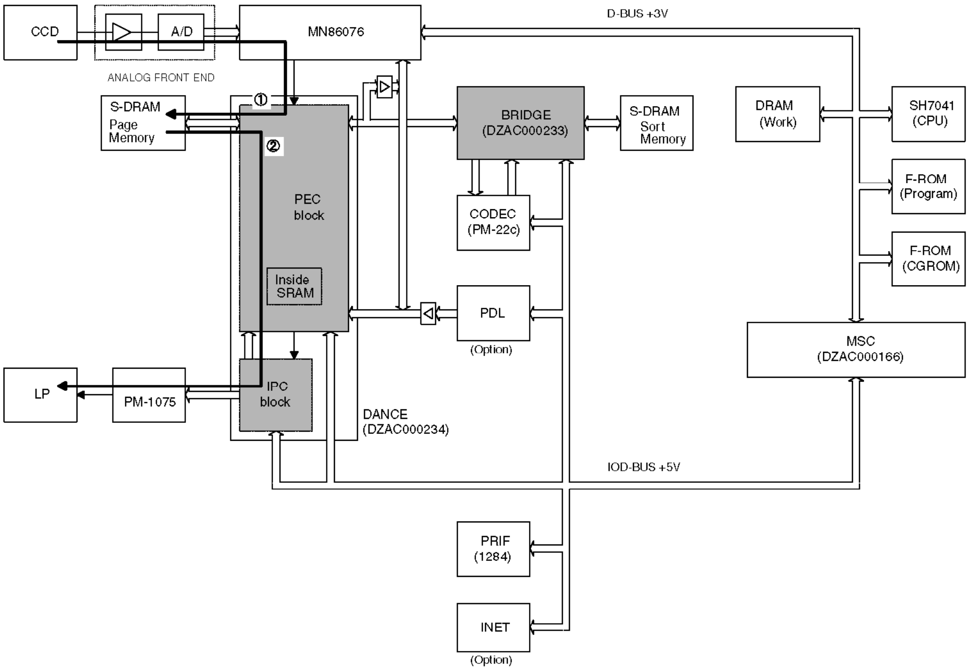

CCD
A/D
ANALOG FRONT END
MN86076
D-BUS +3V
S-DRAM
Page Memory
PEC block
Inside SRAM
BRIDGE (DZAC000233)
S-DRAM
Sort Memory
CODEC (PM-22c)
DRAM (Work)
FROM (Image)
FROM Card (Image, Boot)
(Option)
SH7041 (CPU)
FROM (Program)
FROM (CGROM)
(Smoothing Data)
MSC (DZAC000166)
LP
PM-1075
IPC block
DANCE (DZAC000234)
IOD-BUS +5V
PRIF (1284)
G4B INET
(Option)
MN195006 (MODEM)
CODEC (MN86064)
NCU
API
①
②
③

① LINE → NCU → MN195006 (MODEM) → MN86064 (Conversion)

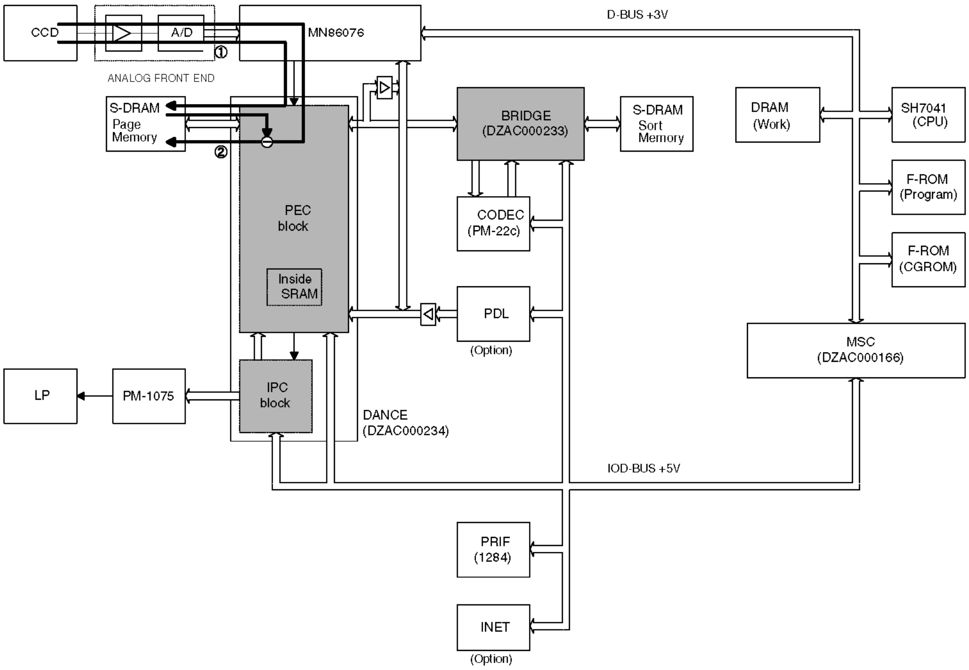
② MN86064 (Coded Data) → MSC (DMA Transfer) → DRAM (Buffer)

③ DRAM (Buffer) → Program Transfer → FROM (Image Memory)

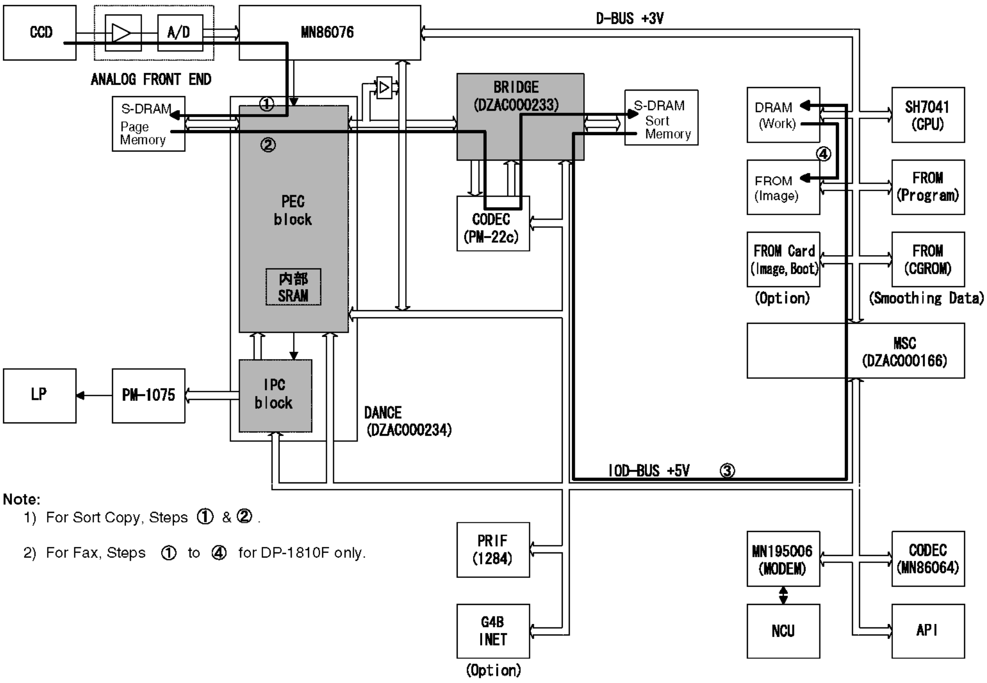
3. Copy


CCD
A/D
ANALOG FRONT END
MN86076
D-BUS +3V
①
②
S-DRAM
Page
Memory
PEC
block
Inside
SRAM
BRIDGE
(DZAC000233)
S-DRAM
Sort
Memory
DRAM
(Work)
SH7041
(CPU)
F-ROM
(Program)
F-ROM
(CGROM)
CODEC
(PM-22c)
PDL
(Option)
MSC
(DZAC000166)
LP
PM-1075
IPC
block
DANCE
(DZAC000234)
IOD-BUS +5V
PRIF
(1284)
INET
(Option)

4. Skyshot


CCD
A/D
①
ANALOG FRONT END
MN86076
D-BUS +3V
S-DRAM
Page
Memory
②
PEC
block
Inside
SRAM
BRIDGE
(DZAC000233)
S-DRAM
Sort
Memory
DRAM
(Work)
SH7041
(CPU)
F-ROM
(Program)
F-ROM
(CGROM)
CODEC
(PM-22c)
PDL
(Option)
MSC
(DZAC000166)
LP
PM-1075
IPC
block
DANCE
(DZAC000234)
IOD-BUS +5V
PRIF
(1284)
INET
(Option)

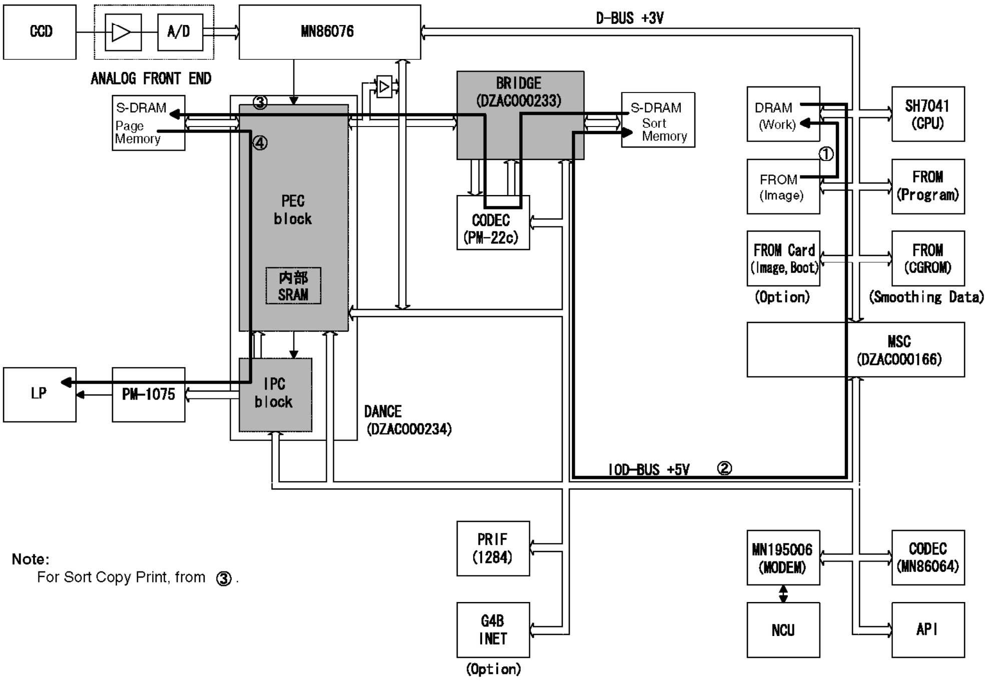
5. Scan into Memory


CCD
A/D
MN86076
D-BUS +3V
ANALOG FRONT END
BRIDGE
(DZAC000233)
S-DRAM
Sort
Memory
DRAM
(Work)
SH7041
(CPU)
①
S-DRAM
Page
Memory
②
④
FROM
(Image)
FROM
(Program)
PEC
block
CODEC
(PM-22c)
FROM Card
(Image, Boot)
(Option)
FROM
(CGROM)
(Smoothing Data)
内部
SRAM
MSC
(DZAC000166)
LP
PM-1075
IPC
block
DANCE
(DZAC000234)
IOD-BUS +5V
③
PRIF
(1284)
MN195006
(MODEM)
CODEC
(MN86064)
G4B
INET
(Option)
NCU
API

Note:
1) For Sort Copy, Steps ① & ② .

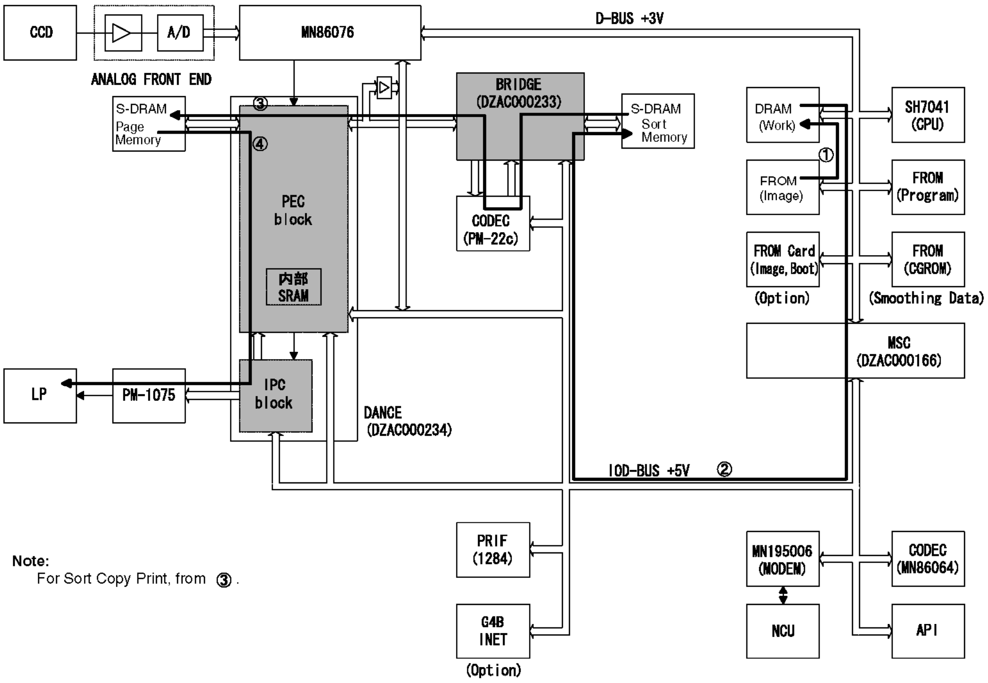
2) For Fax, Steps ① to ④ for DP-1810F only.

6. File Print from Memory


CCD
A/D
MN86076
D-BUS +3V
ANALOG FRONT END
BRIDGE
(DZAC000233)
S-DRAM
Sort
Memory
DRAM
(Work)
SH7041
(CPU)
S-DRAM
Page
Memory
③
④
①
FROM
(Image)
FROM
(Program)
PEC
block
CODEC
(PM-22c)
FROM Card
(Image, Boot)
(Option)
FROM
(CGROM)
(Smoothing Data)
内部
SRAM
MSC
(DZAC000166)
LP
PM-1075
IPC
block
DANCE
(DZAC000234)
IOD-BUS +5V
②
PRIF
(1284)
MN195006
(MODEM)
CODEC
(MN86064)
G4B
INET
(Option)
NCU
API

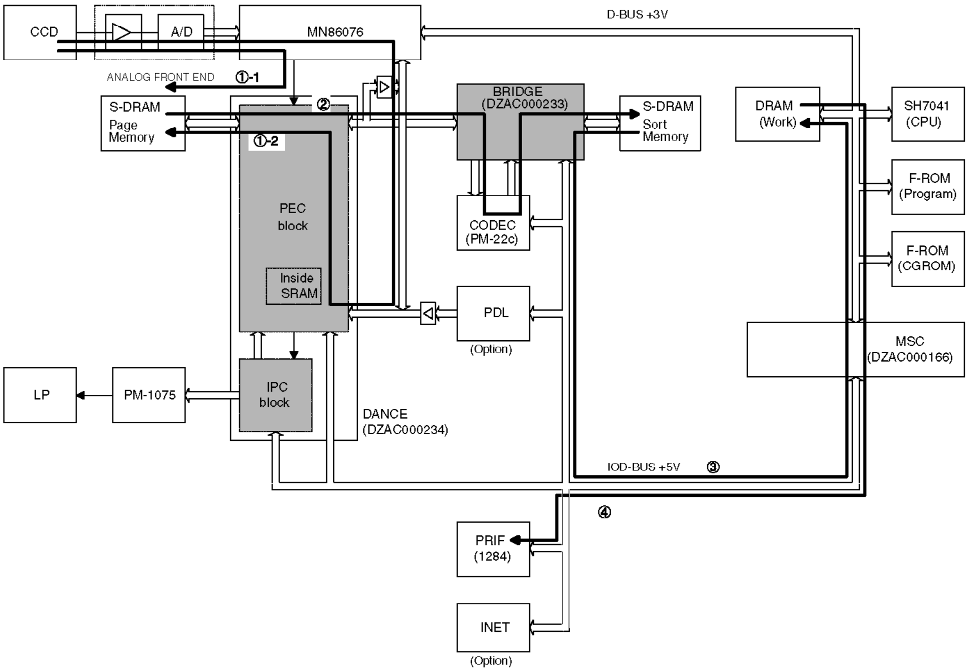
Note:
For Sort Copy Print, from ③ .

7. Report/List Printing

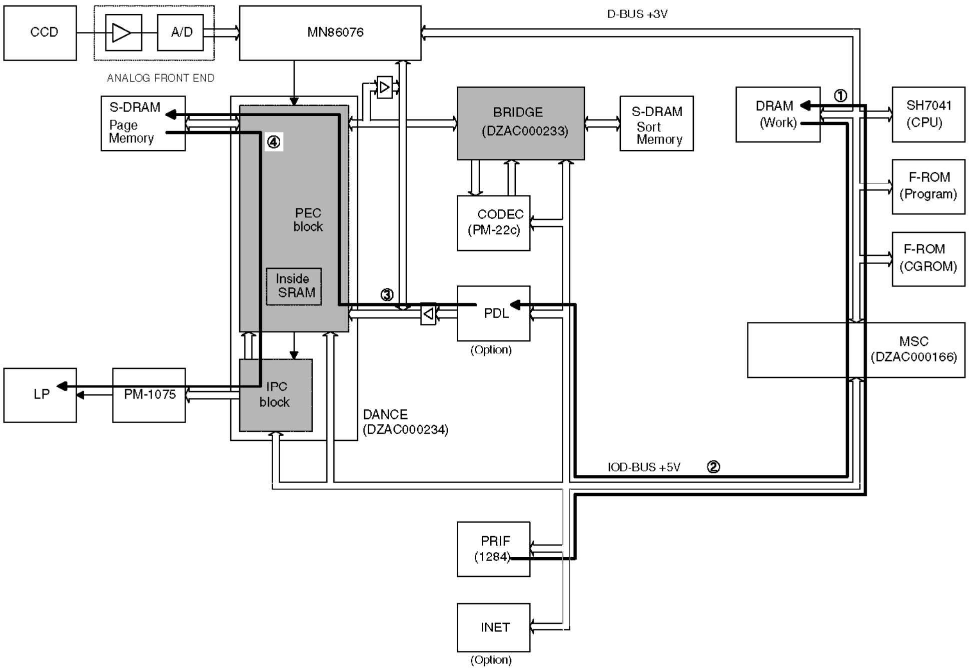

CCD
A/D
ANALOG FRONT END
MN86076
D-BUS +3V
BRIDGE
(DZAC000233)
S-DRAM
Sort
Memory
S-DRAM
Page
Memory
③
④
PEC
block
内部
SRAM
CODEC
(PM-22c)
DRAM
(Work)
①
FROM
(Image)
FROM Card
(Image, Boot)
(Option)
SH7041
(CPU)
FROM
(Program)
FROM
(CGROM)
(Smoothing Data)
MSC
(DZAC000166)
LP
PM-1075
IPC
block
DANCE
(DZAC000234)
IOD-BUS +5V
②
PRIF
(1284)
G4B
INET
(Option)
MN195006
(MODEM)
NCU
CODEC
(MN86064)
API

Note:
For Sort Copy Print, from ③.

8. PC Scanning Mode (Binary/Gray Scale Scanning)


CCD
A/D
MN86076
D-BUS +3V
ANALOG FRONT END
①-1
②
①-2
S-DRAM
Page
Memory
BRIDGE
(DZAC000233)
S-DRAM
Sort
Memory
DRAM
(Work)
SH7041
(CPU)
F-ROM
(Program)
F-ROM
(CGROM)
PEC
block
Inside
SRAM
CODEC
(PM-22c)
PDL
(Option)
MSC
(DZAC000166)
LP
PM-1075
IPC
block
DANCE
(DZAC000234)
IOD-BUS +5V
③
④
PRIF
(1284)
INET
(Option)

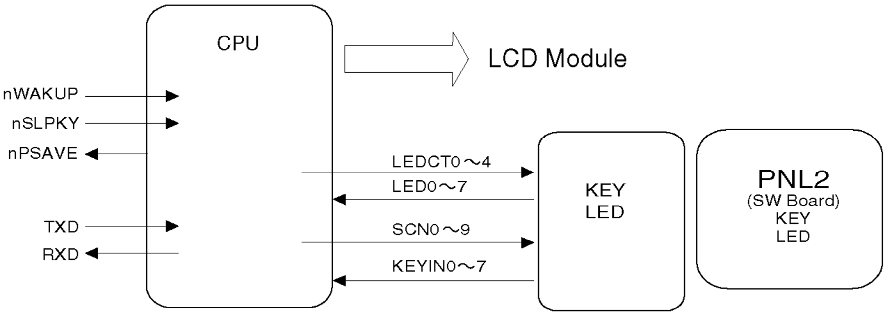
9. Printer I/F (PDL)


CCD
A/D
ANALOG FRONT END
MN86076
D-BUS +3V
S-DRAM
Page
Memory
④
PEC
block
Inside
SRAM
③
BRIDGE
(DZAC000233)
S-DRAM
Sort
Memory
CODEC
(PM-22c)
PDL
(Option)
DRAM
(Work)
①
SH7041
(CPU)
F-ROM
(Program)
F-ROM
(CGROM)
MSC
(DZAC000166)
LP
PM-1075
IPC
block
DANCE
(DZAC000234)
IOD-BUS +5V
②
PRIF
(1284)
INET
(Option)

6.5.9. Panel PC Board

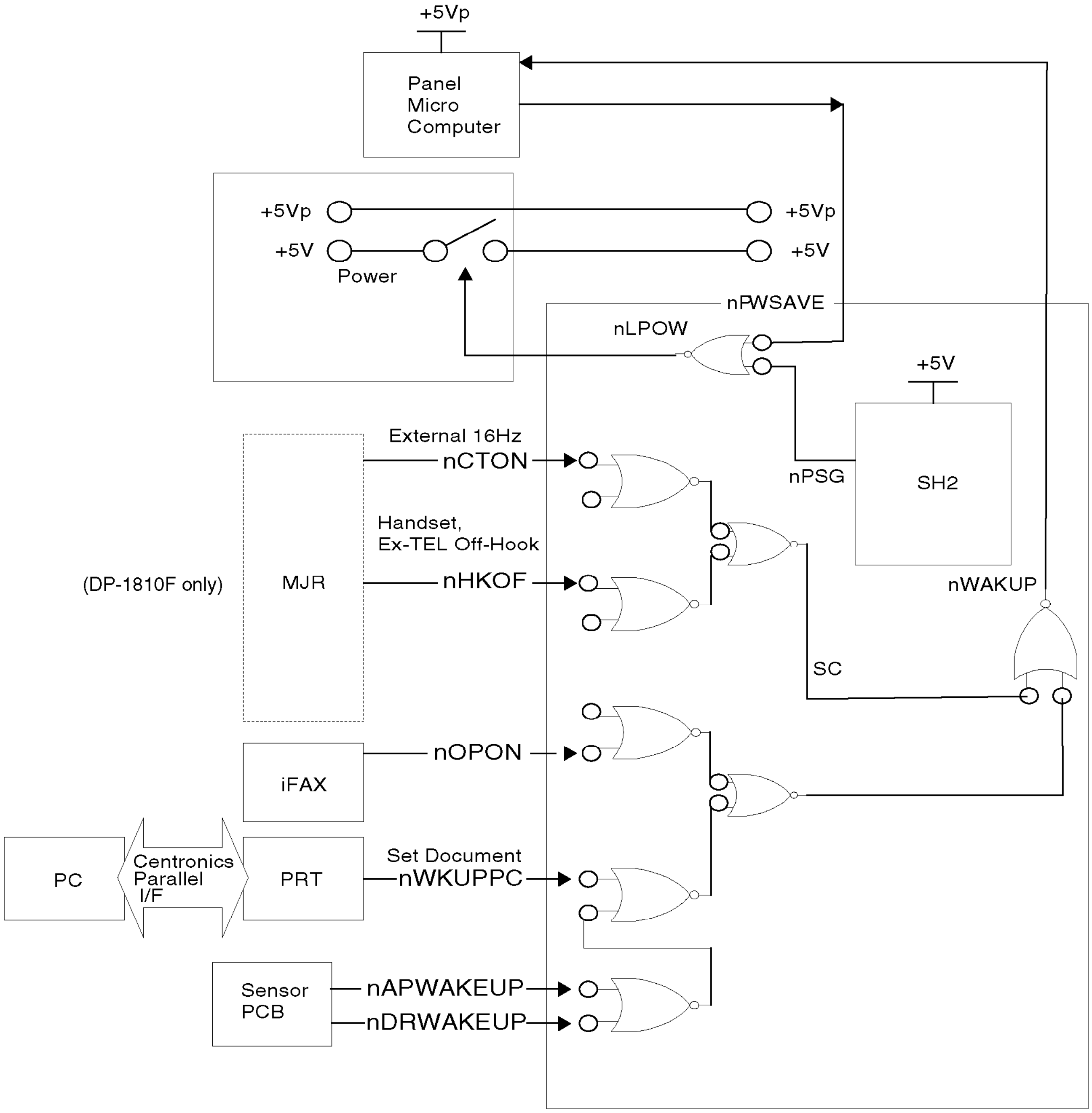
This Panel PC Board consists of Panel Control Sub-CPU, LED, and Key Switch.

The Sub-CPU receives the command of async serial data from SC PCB and executes LCD Display, LED Lamp, Switching Scan, Key Touch Sound, and Alarm Sound. The signal nPSAVE is turned to LOW with the command from SC PCB and shifts to Sleep Mode. When Sleep Mode (Auto Off) is on, only +5VP is reactivated and +5V (for LED Driver) and +24V (for Status LED and Alarm) is cut off. After detecting the signal nWAKUP which is input from SC PCB, the signal nPSAVE is turned to HIGH in order to recover from Sleep Mode and reactivate the main power of the machine.


CPU
LCD Module
nWAKUP
nSLPKY
nPSAVE
TXD
RXD
LEDCT0～4
LED0～7
SCN0～9
KEYIN0～7
KEY
LED
PNL2
(SW Board)
KEY
LED

The machine will emerge from Sleep Mode under the following conditions:

1. Push on Energy Saver Key
2. Original Sensor Actuated (ADF Option)
3. Data Signal from Printer I/F
4. Platen Cover Open
5. Ringing Signal Detected (DP-1810F only).
6. Off-Hook Detected by Option Handset or External Telephone (DP-1810F only).


+5Vp
Panel Micro Computer
+5Vp
+5V
Power
+5Vp
+5V
nPWSAVE
nLPOW
+5V
nPSG
SH2
External 16Hz
nCTON
Handset, Ex-TEL Off-Hook
nHKOF
(DP-1810F only)
MJR
nWAKUP
SC
nOPON
iFAX
PC
Centronics Parallel I/F
PRT
Set Document
nWKUPPC
Sensor PCB
nAPWAKEUP
nDRWAKEUP

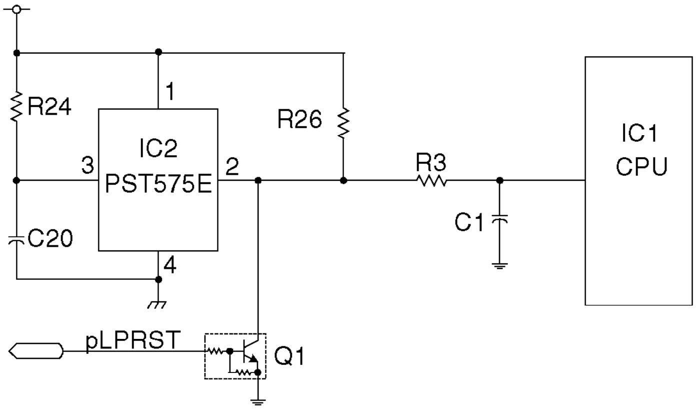
6.5.10. Laser Printer Motor Drive Circuit

1. System Description

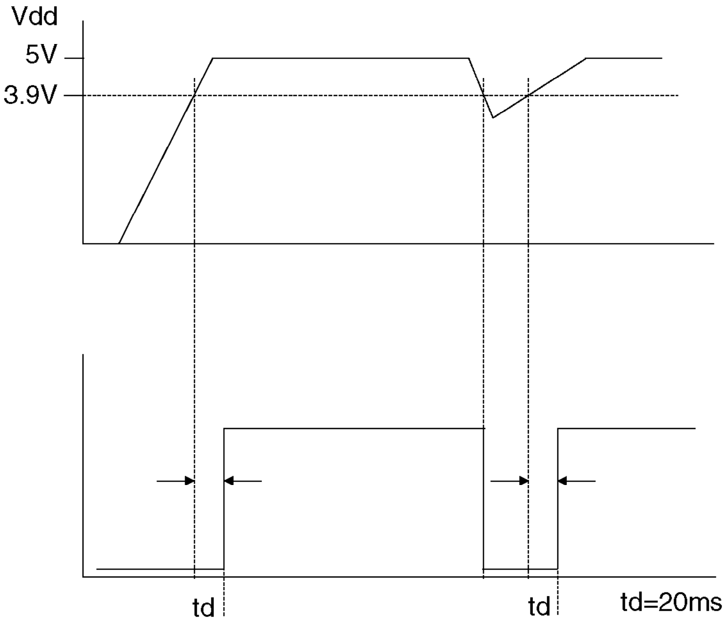
It consists of 16 bit CPU M30802. The CPU controls mechanism of Laser Printer, Fuser Lamp temperature, and Laser Unit.

2. Reset Circuit

This circuit consists of IC301 (PST575E) and peripheral circuit. This circuit always watches 5V. Output of this circuit (nRST) is set that if 5V falls below setting level (3.9V). When the 5V rises above voltage, the reset signal is canceled after a delay of approximately 20 ms. After cancelling, software is started by CPU.



Reset Circuit



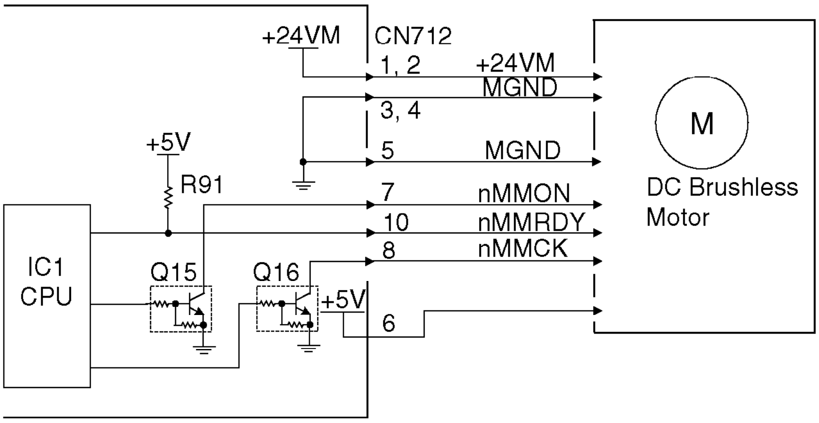
Reset Signal Timing Chart

3. Printer Motor Drive Circuit

This Printer Motor is a Brushless DC Motor.

nMMON	:	When the signal level goes Low, the Printer Motor starts rotating.
nMMRDY	:	Rotation status signal for Printer Motor. When the Printer Motor reaches a constant speed, nMMRDY signal level goes Low.
nMMCK	:	Clock signal for Printer Motor Drive.

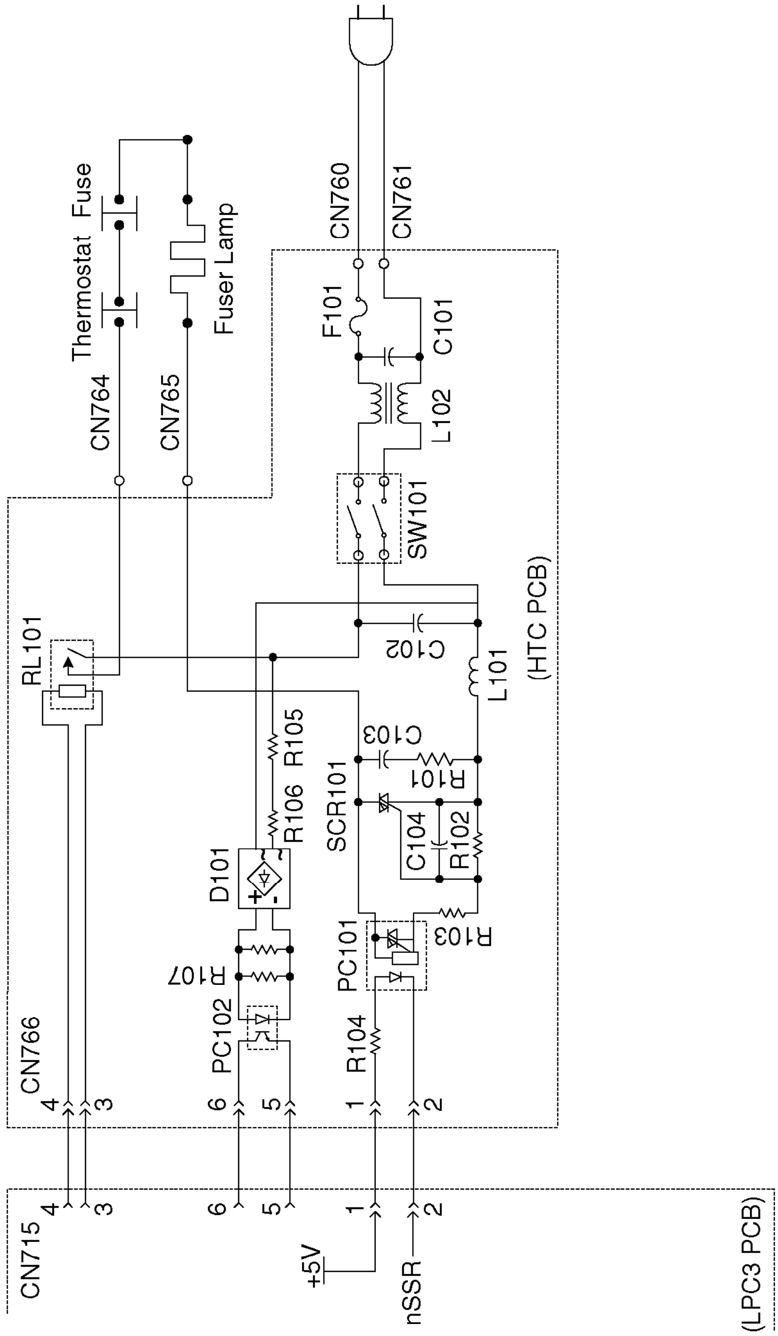
The Printer Motor is powered by +24 VDC supply. When the interlocks are open, the +24 VDC supply is cut off and the Printer Motor stops rotating.


+24VM
CN712
1, 2
+24VM
MGND
3, 4
+5V
5
MGND
R91
7
nMMON
10
nMMRDY
8
nMMCK
IC1
CPU
Q15
Q16
+5V
6
M
DC Brushless
Motor

4. Fuser Lamp Drive Circuit

It consists of 1 Fuser Lamp and Fuser Lamp is controlled by the HTC PC Board.

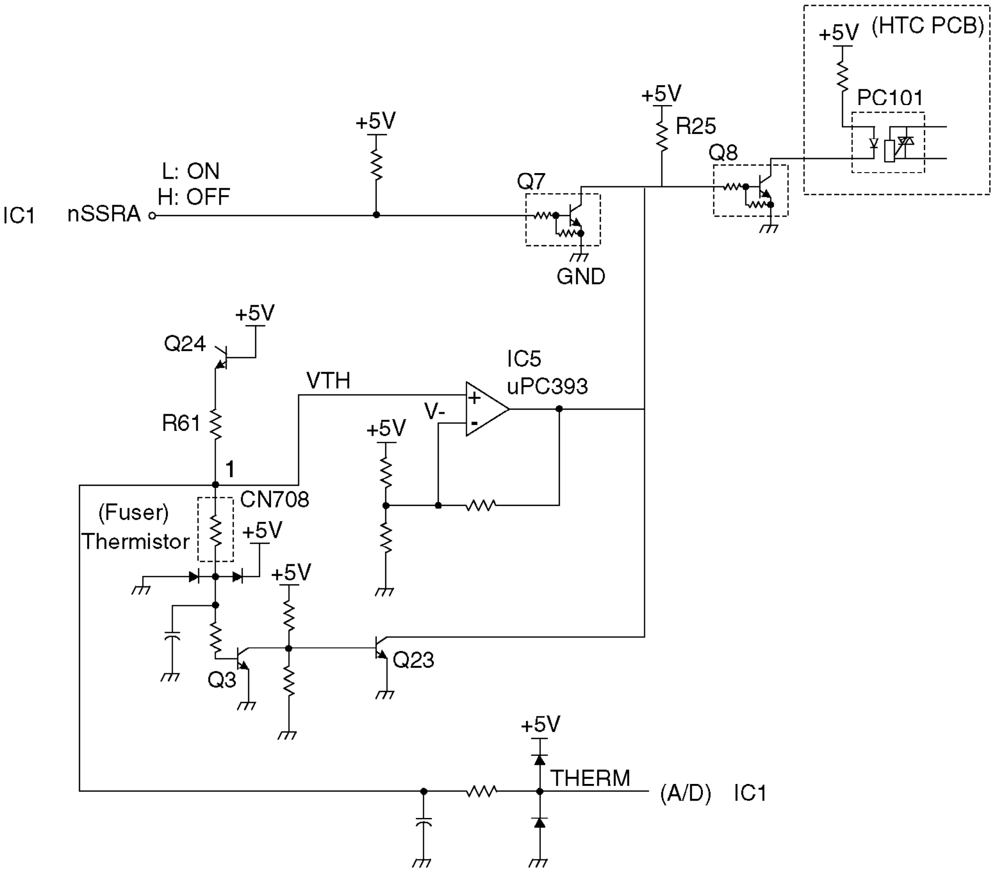
The Fuser Lamp is powered by 100 VAC. When the CN766, Pin 2 (nSSR) on the HTC PCB goes LOW, the Fuser Lamp turns ON. This lights up the PC101 LED and activates the SCR101 photo-triac, and AC is sent to the Fuser Lamp.


Thermostat
Fuse
Fuser Lamp
CN760
CN761
F101
C101
L102
CN764
CN765
SW101
(HTC PCB)
RL101
C102
L101
R105
C103
R101
SCR101
R106
C104
R102
D101
R103
PC101
R107
PC102
R104
CN766
4
3
6
5
1
2
CN715
4
3
6
5
1
2
+5V
nSSR
(LPC3 PCB)

5. Fuser Temperature Control Circuit

The fuser temperature is controlled by IC1 on the LPC3 PC Board, which contains A/D (Analog/Digital) converters. IC1 adjusts temperature, observing Thermistor and voltages separated by R61 with A/D converters. When the PC101 drive current is transmitted from the LPC3 PC Board to the HTC PCB, the Fuser Lamp turns ON. IC5 is a converter with open output at pins 1 and 7 and is used as an abnormal temperature detection circuit. IC5, pin 1 and 7, has a high impedance when Q7 and Q8 are activated, turning ON the Fuser Lamp. An abnormal temperature is detected when the VTH voltage level becomes lower than V-, forcing IC5, pin 1 and 7 Low and deactivating Q8.

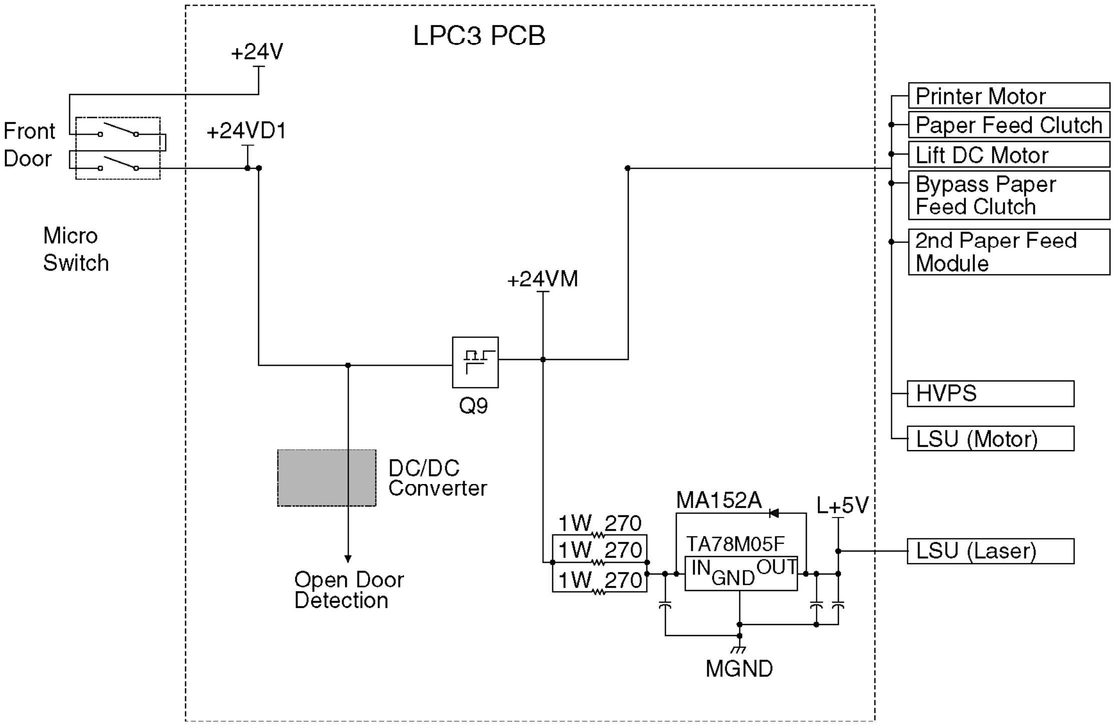
Abnormally low and high temperatures, as well as Thermistor release status, are detected by IC1 (CPU) programming.


+5V
(HTC PCB)
PC101
+5V
R25
Q8
+5V
L: ON
H: OFF
Q7
IC1
nSSRA
GND
+5V
Q24
IC5
uPC393
VTH
V-
+
-
R61
+5V
1
CN708
(Fuser)
Thermistor
+5V
+5V
Q3
Q23
+5V
THERM
(A/D)
IC1

Fuser Temperature Control Circuit

6. Interlock Safety Circuit

This safety circuit turns OFF the +24 VDC and +5 VDC supply voltages when the Front Door Cover is opened. When the Front Door Cover is opened, the microswitch(es) on the ILS PC Board are de-actuated, turning OFF +24 VDC to the Printer Motor Drive Circuit, the HVPS, the Paper Feed Solenoid Circuits, the Clutch Drive Circuit, and the Laser Driver Circuit on the Laser Unit.

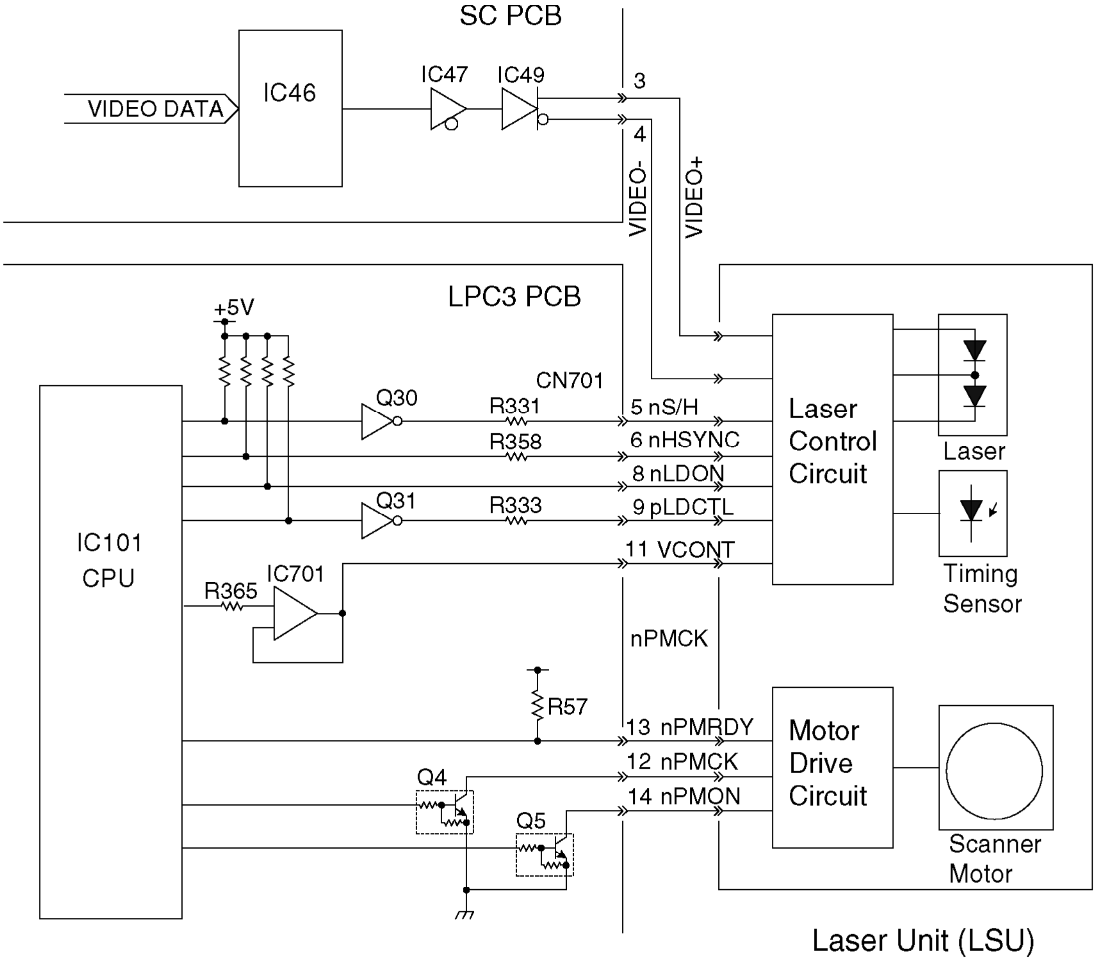

LPC3 PCB
+24V
Front Door
Micro Switch
+24VD1
Printer Motor
Paper Feed Clutch
Lift DC Motor
Bypass Paper Feed Clutch
2nd Paper Feed Module
+24VM
Q9
HVPS
LSU (Motor)
DC/DC Converter
MA152A
L+5V
1W 270
1W 270
1W 270
TA78M05F
IN GND OUT
LSU (Laser)
Open Door Detection
MGND

Interlock Safety Circuit Block Diagram

7. LSU Control Circuit

The laser control signals are described below.
Actual data is sent from SC PCB to LSU.

VIDEO+ : Actual data is outputted by these 2 signals.
VIDEO-
nS/H : Laser Power Sample/Hold Timing Signal.
nHSYNC : This horizontal synchronization signal transmitted from the Beam Detection Sensor sets the horizontal position of the laser beam as it crosses the OPC Drum.
nLDON : The LSU is activated when this output signal is LOW. If an error occurs, the nLDON output signal level goes High and the LSU is deactivated.
pLDCTL : This signal turns ON the laser output to activate nHSYNC signal.
VCON : This is the Analog Voltage for adjusting Laser output power.
nPMCK : This is the Polygon Motor Drive Clock.
nPMRDY : When the Polygon Motor speed is constant, the nPMRDY is at a Low output signal level.
nPMON : This is the Polygon Motor Control Signal. The Polygon Motor rotates when the nPMON output signal level is LOW.


SC PCB
VIDEO DATA
IC46
IC47
IC49
3
4
VIDEO-
VIDEO+
LPC3 PCB
+5V
CN701
Q30
R331
5 nS/H
R358
6 nHSYNC
8 nLDON
Q31
R333
9 pLDCTL
11 VCONT
IC101
CPU
R365
IC701
nPMCK
R57
13 nPMRDY
12 nPMCK
14 nPMON
Q4
Q5
Laser
Control
Circuit
Laser
Timing
Sensor
Motor
Drive
Circuit
Scanner
Motor
Laser Unit (LSU)

7 Installation

7.1. Precautions During Set Up

Copy machine performance and the copy quality is subject to and dependant on environmental conditions. To maintain good performance, quality, and safe operation, observe the following precautions:

1. For safe operation and to avoid trouble, do not install the system under the following conditions:

   - High temperature, high humidity, low temperature or low humidity
   - Sudden changes in temperature or humidity
   - Exposed to direct sunlight
   - Dusty environment
   - Poorly ventilated location
   - Exposed to chemical gases (such as ammonia gas)
   - Exposed to strong vibration
   - Exposed to direct air current (ex. Air conditioner vent)

2. The weight of machine is 91 lb (41 kg) or more with options. It must be installed on a firm and leveled surface.

3. The maximum power consumption is 1.5 kW. Depending on the product destination, the wall outlet must be rated for 120 VAC or 220-240 VAC accordingly. It must also be protected for at least 15 amps for 120 VAC, or 10 amps for 220-240 VAC. If you are in doubt about a power source, ensure that a qualified electrician checks the outlet. Do not connect any other devices to the wall outlet designated for this machine. (Do not use an extension cord)

4. Make sure the outlet is properly grounded. (Do not ground to gas or water pipe)

5. Install in an area that meets or exceeds the minimum space requirement.

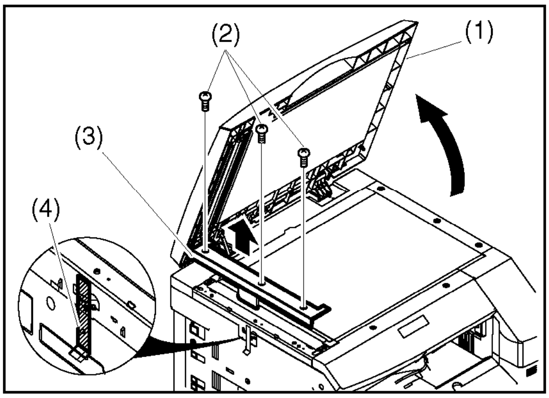
7.2. Unpacking

Visually check the condition and contents of the box for completeness or any shipping damage before installation.
Remove all filament tapes used to secure the Fuser and Process Units during shipment.

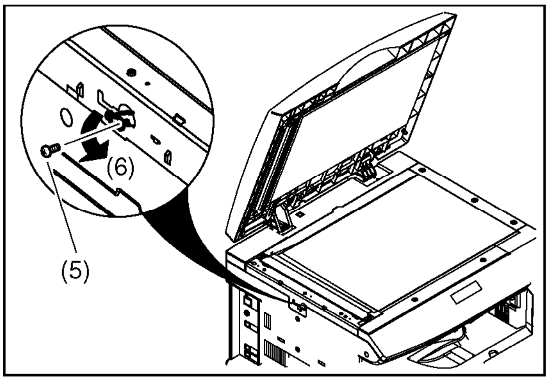
7.3. Installation Procedure

Note:
1. Refer to each individual Installation Instructions when installing Stands or other Optional Kits.
2. The following machine illustrations, depicts a DP-1810P with a standard configuration of 1 Paper Tray.
3. The scanner is held in place by a Metal Shipping Bracket to prevent damage during transit.
   Do not turn the Power Switch ON before unlocking the scanner.
4. The machine is shipped from the factory with the Pressure Roller locked in the opened position to avoid the possibility of damaging the Pressure Rollers.
   Do not turn the Power Switch ON before unlocking the Pressure Roller.

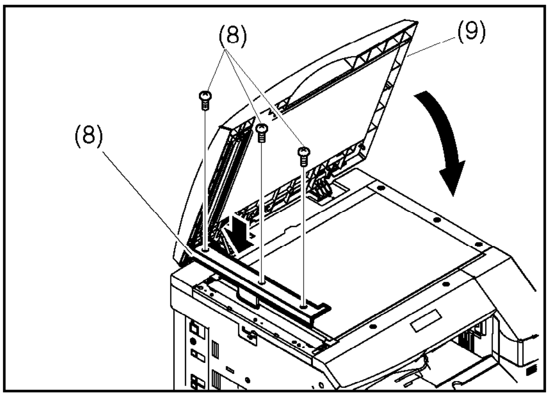
7.3.1. Installation Procedure



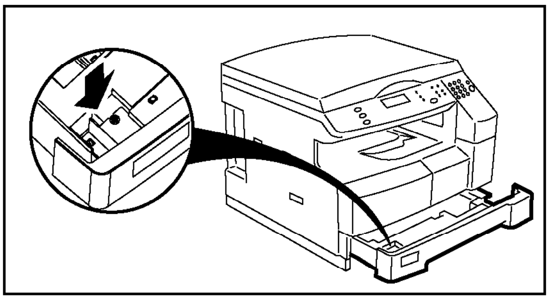
(1) Open the **Platen Cover** or the **ADF**.
(2) Remove 3 **Silver Screws**.
(3) Remove the **Left Platen Cover**.
(4) Remove the **Orange Tape**.



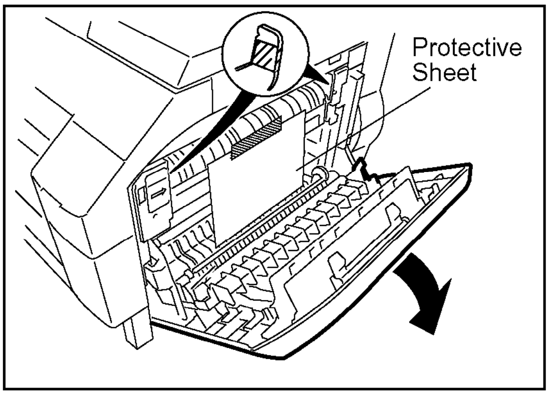
(5) Remove 1 **Blue Screw**.
(6) Remove the **Metal Shipping Bracket** by rotating counter-clockwise.
(7) Re-install the **Blue Screw** removed in step (5).



(8) Re-install the **Left Platen Cover** and fasten with 3 Silver Screws removed in step 2.
(9) Close the **Platen Cover** or the **ADF**.

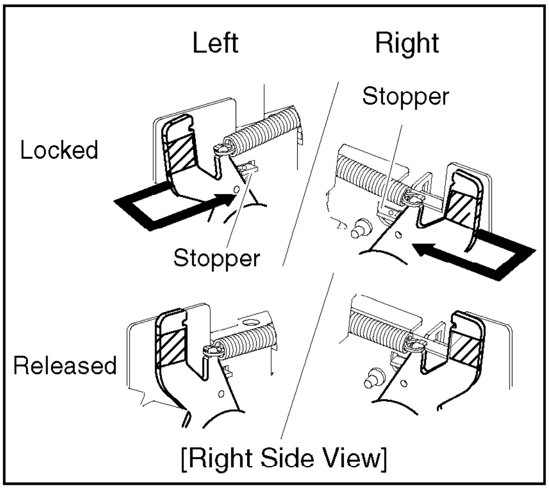


(10) Store the **Metal Shipping Bracket** removed in step (6) in the space provided in the Paper Tray.

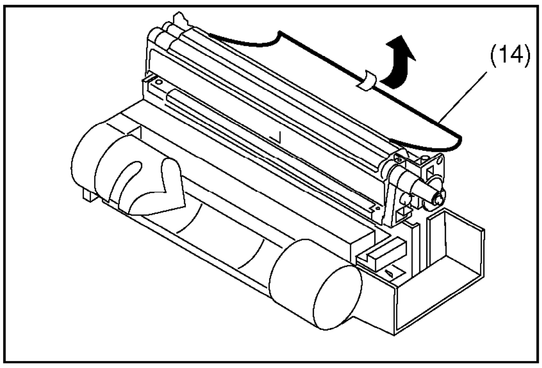

Protective
Sheet

(11) Open the **Right Cover**.

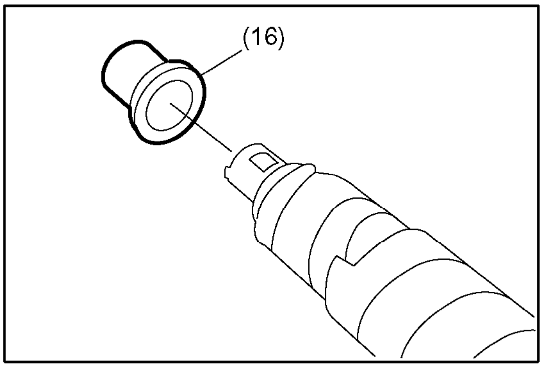
(12) Remove the Protective Sheet.


Left
Right
Stopper
Locked
Stopper
Released
[Right Side View]

(13) Release 2 **Pressure Levers** as illustrated.

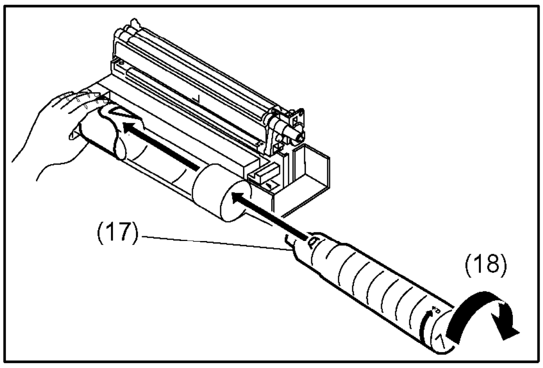


(14) Remove the **Protection Paper** from the Process Unit.



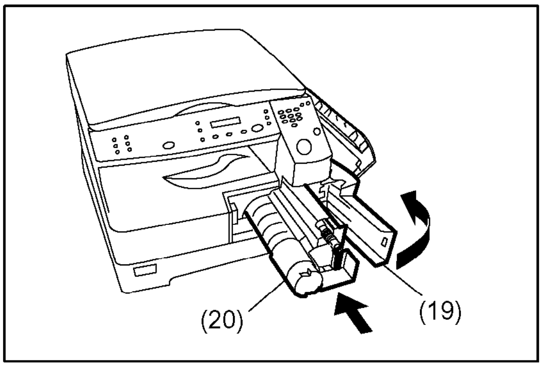
(15) Shake the new **Toner Bottle** four or five times to loosen the contents.

(16) Remove the **Toner Bottle Cap**.



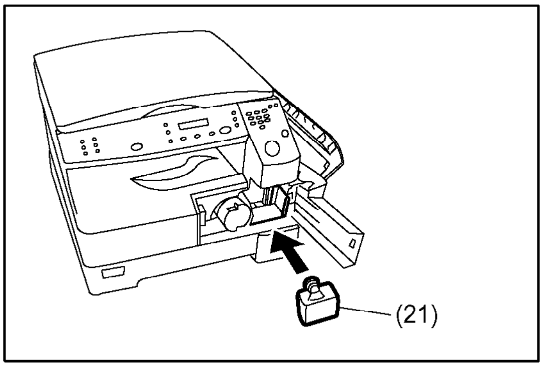
(17) Align the Key of the **Toner Bottle** with the Key Alignment Channel of the **Bottle Holder**.

(18) Insert the Bottle as far as it will go, then while holding the Bottle Holder in place, turn the Toner Bottle clockwise (160°, approx. 1/2 turn) until it locks.



(19) Open the **Front Cover**.

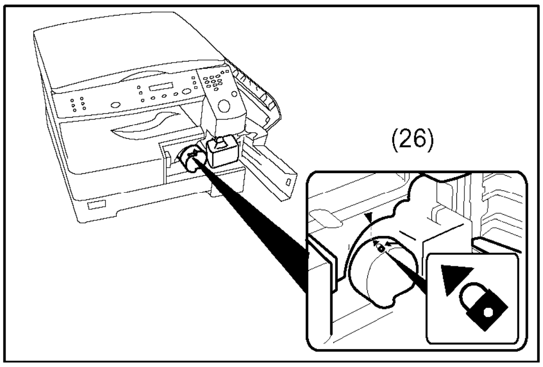
(20) Install the **Process Unit**, making sure it is locked in place by the **White Latch Hook**.



(21) Install the **Toner Waste Container**, making sure it is secured by the **Black Bracket**.

(22) Close the **Front Cover** and **Right Cover**.

(23) Connect the **Power Cord** and turn the **Power Switch ON**.



(24) Wait for the toner to charge and fill the process unit.

(25) Open the **Front Cover**.

(26) Make sure that the Arrow (**Locked** symbol 🔒) visible on the end of the Toner Bottle is aligned with the Arrow mark on the machine.

Note:
If not aligned, remove the **Toner Bottle** again. Turn it 180° (1/2 turn) and re-install it. The Arrow marks should be aligned as described in step (26) above. Then close the **Front Cover**.

Note:
Set the parameter for **F5-73 [PM (OPC DRUM)]** and/or **F5-74 [PM (PROCESS UNIT)]** to **“User”** if the replacement will be done by the user.

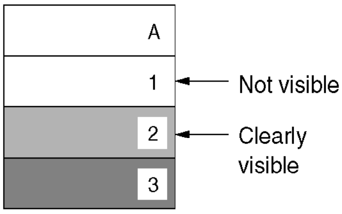
7.4. Adjustment

7.4.1. Exposure (Standard Adjustment)

The following values will be added to the reference value. DO NOT adjust these codes in the field.

F6-18 : Laser power compensation
F6-19 : Developer bias standard voltage compensation

1. Press “FUNCTION”, “ORIGINAL SIZE”, and “3” keys sequentially to enter the Service Mode.
2. Press "6" and "START" keys to enter the F6 Mode.
3. Ensure that F6-18 and 19 are set to “0”.
4. Enter F2 Mode and set the exposure to the center position.
   Set the machine to TEXT / PHOTO Mode.
5. Make a copy of Test Chart 53/54 with gray scale (P/N FQ-SJ1011) and verify the density as shown below. If it is within specification, skip to step (10).
   a. Gray scale “1” should not be visible.
   b. Gray scale “2” should be clearly visible.



6. Enter F6-50 Mode.
7. Enter the new content.

Note:
The “RESET” key is used to enter the “-” content.
(+) : Lighter side
(-) : Darker side

8. Press the “OK” key, then press “CLEAR” key.
9. Enter F2 Mode.
10. Make a copy to confirm the adjustment.

Note:
Repeat Step (3) to (9) until proper density is attained.
F6-49 : Text Mode
F6-51 : Photo Mode

11. Press “FUNCTION” and “CLEAR” keys simultaneously to exit the Service Mode.

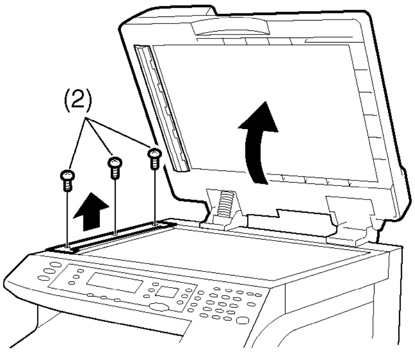
7.4.2. Lead Edge Registration Adjustment (2nd Tray)

1. Press “FUNCTION”, “ORIGINAL SIZE”, and “3” keys sequentially to enter the Service Mode.
2. Press "6" and "START" keys to enter the F6 Mode.
3. Enter F6-05 Mode.
4. Enter the new content.

Note:
The “RESET” key is used to enter the “-” content.
(+) : Paper feed timing is delayed.
(-) : Paper feed timing is advanced.

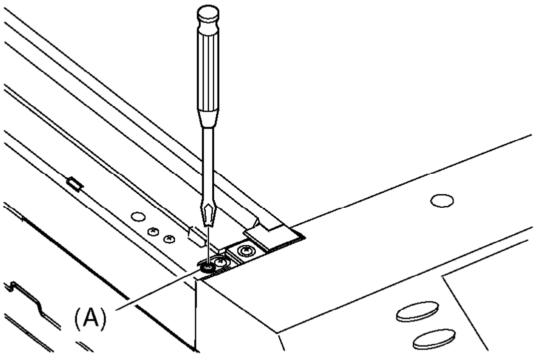
5. Press the “OK” key, then press “CLEAR” key.
6. Enter F2 Mode.
7. Make a copy to confirm the adjustment. Perform Step (3) again, if necessary.
8. Press “FUNCTION” and “CLEAR” keys simultaneously to exit the Service Mode.

7.4.3. Leading Edge Adjustment (Scanner)

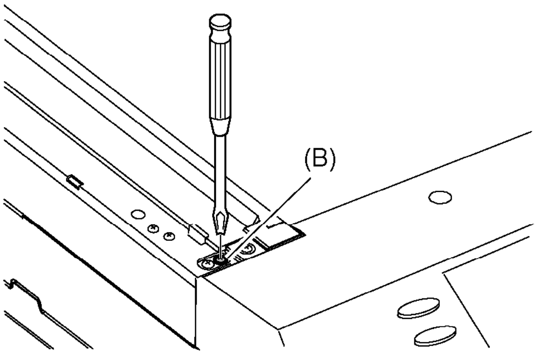


(1) Make sure that the Scanner Unit is at initial position.

(2) Remove 3 **Silver Screws** and remove **Left Platen Cover**.

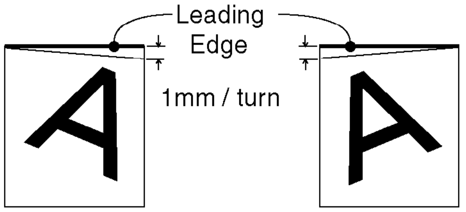


(3) Loosen the Left edge **Screw (A)** turning counter-clockwise 1 or 2 rounds.



(4) Adjust the Leading Edge by turning the **Adjustment Screw (B)**.

<Print Example>



- Screw (B) turn Clockwise
- Screw (B) turn Counter-clockwise

(5) If the Leading Edge is skewed to the right, turn the **Adjustment Screw (B)** clockwise.

(6) If the Leading Edge is skewed to the left, turn the **Adjustment Screw (B)** counter-clockwise.

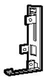
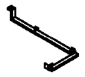
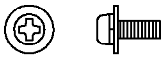
(7) Secure the **Screw (A)** and re-install **Left Platen Cover**.

Note:
1 turn adjusts the edge skew by approximately 1mm on Ledger or A3 document size.

8 Options and Supplies

8.1. Installing the 10/100 Ethernet Interface / Internet Fax Kit (DA-NE200)

8.1.1. Contents Required for DP-1510P/1810P/1810F/2010E

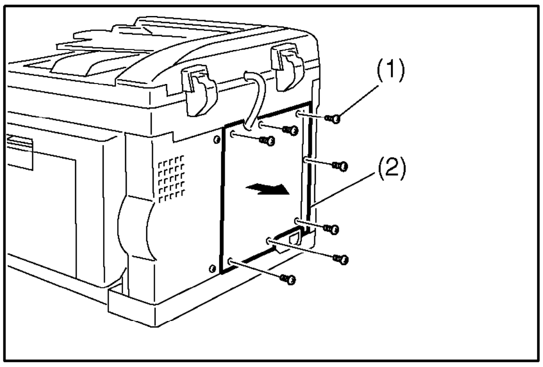
Qty.	Description	Part No.	Remarks
1	LANB PC Board	See Note 2	
1	LANB-LANC Harness	DZFP000898	
1	LANC-BK Assembly	DZHP004034	
1	LAN Port Label	DZNK004121	
3	Screw	XTB3+8J	
1	Bracket, LANC A	DZJB000340	
1	Bracket, LANB	DZJB000308	
5	Screw	XYN3+F8	
1	Core, Ferrite	DZDN000232	For 200VDC Destinations Only
1	DP-1810/2010 Operating Instructions	See Note	
1	Installation Instructions	DZSM000512	

Note:
The part number differs depending on the Destination. Refer to the Parts Manual.
This kit contains additional parts to install this Option on several machine models, use only the required parts for the model you are installing.

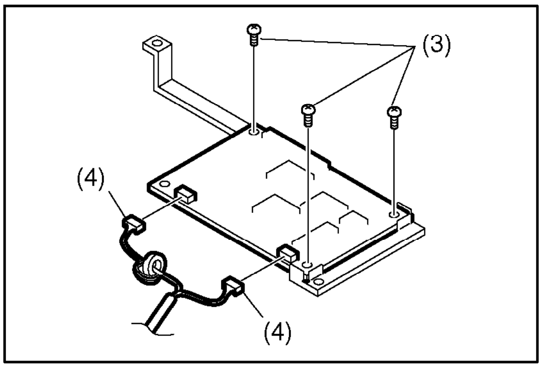
8.1.2. Installation

Note:

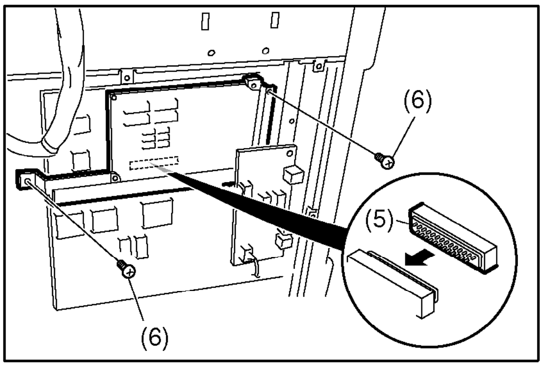
1. With this Option, the DP-1510P/1810P/2010E can be used as a Network Printer and the DP-1810F as an Internet-Fax & Network Printer.
2. Turn the Power Switch to the OFF (O) position and unplug the AC Power Cord before beginning installation.



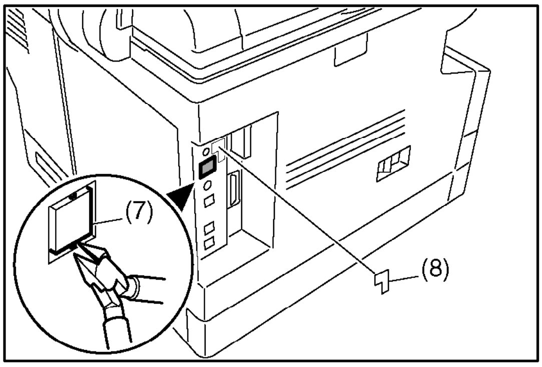
(1) Remove 7 Screws.
(2) Remove the Rear Plate.



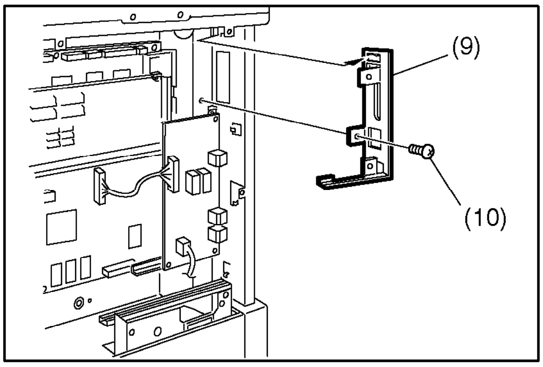
(3) Secure the LANB PC Board onto the Bracket with 3 Screws (XYN3+F8).
(4) Connect the LANB-LANC Harness to CN5 and CN6 on the LANB PC Board.



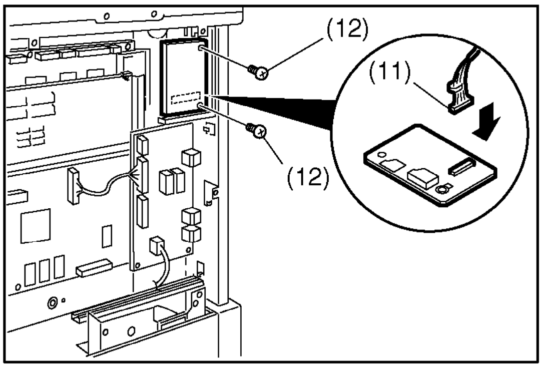
(5) Install the LANB PC Board Assembly.
(6) Secure the LANB PC Board Assembly with 2 Screws (XTB3+8J).



(7) Break off the protective tab on the Left Side Cover.
(8) Attach the Label.

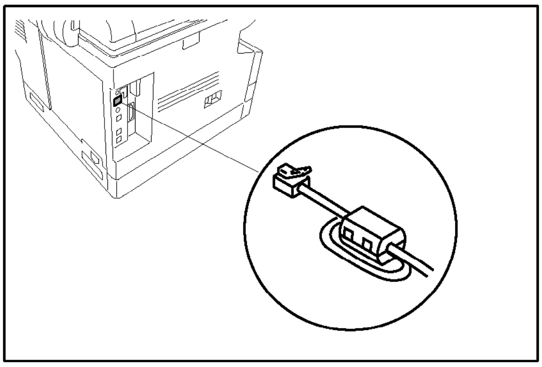


(9) Install the LANC A Bracket.
(10) Secure the LANC Bracket with 1 Screw (XTB3+8J).



Note:
Remove the **LANC PC Board** from **LANC BK Assembly** (DZHP004034).
(LANC Bracket : DZJB000166 : Not used)

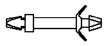
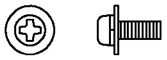
(11) Connect the LANB-LANC Harness to CN200 on the LANC PC Board.
(12) Install the LANC PC Board and secure with 2 Screws (XYN3+F8).
(13) Proceed with the installation of other options. If finished, re-install the Rear Plate.



Note:
For 200 VDC Destinations Only.
Install the **Ferrite Core** to the **Ethernet LAN Cable** with one loop as shown.

8.2. Installing the PCL6 Emulation Kit (DA-PC210)

8.2.1. Contents Required for DP-1510P/1810P/1810F/2010E

Qty.	Description	Part No.	Remarks
1	EP PC Board w/FRM PCB	DZEC101289	
1	Locking Spacer	DZJH000063	
1	Bracket, PDL	DZJB000339	
1	Screw	XTB3+8J	
2	Screw	XYN3+F8	
1	Software CD	See Note 2	Includes Operating Instructions
1	Licence Agreement	See Note 2	
1	Installation Instructions	DZSM000511	

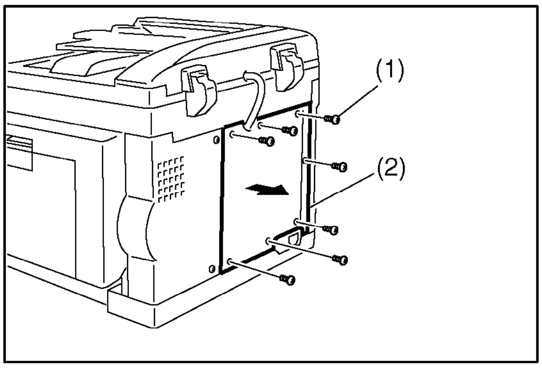
Note:

The part number differs depending on the Destination. Refer to the Parts Manual.
This kit contains additional parts to install this Option on several machine models, use only the required parts for the model you are installing.

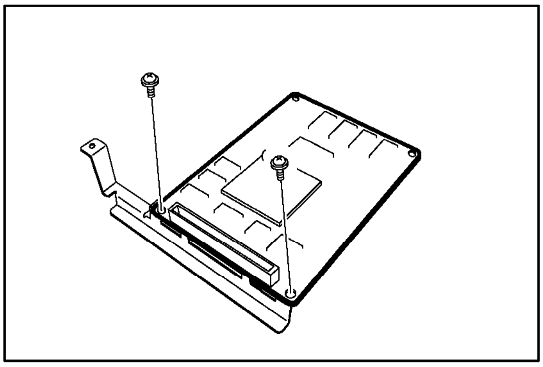
8.2.2. Installation

Note:

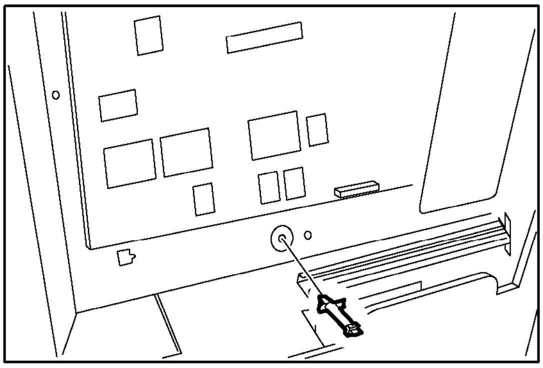
1. Turn the Power Switch to the OFF (O) position and unplug the AC Power Cord before beginning installation.
2. If you are also installing the Sorting Memory Option, install the memory option first.



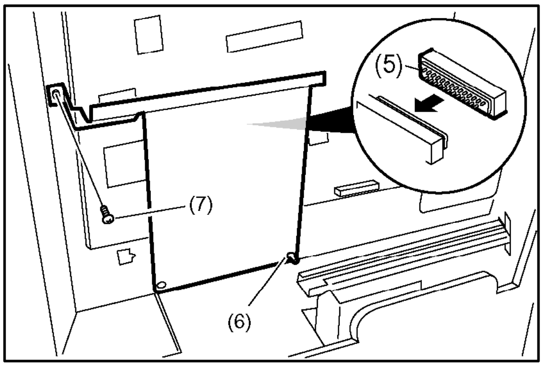
(1) Remove 7 Screws.
(2) Remove the Rear Plate.



(3) Secure the EP PC Board onto the Bracket with 2 Screws (XYN3+F8).



(4) Insert the Locking Spacer (DZJH000063) into the mounting hole on the machine chassis.



(5) Install the EP PC Board Assembly.
(6) Insert the Locking Spacer into the EP PC Board Assembly.
(7) 1 Screw (XTB3+8J).
(8) Proceed with the installation of other options.
If finished, re-install the Rear Plate.

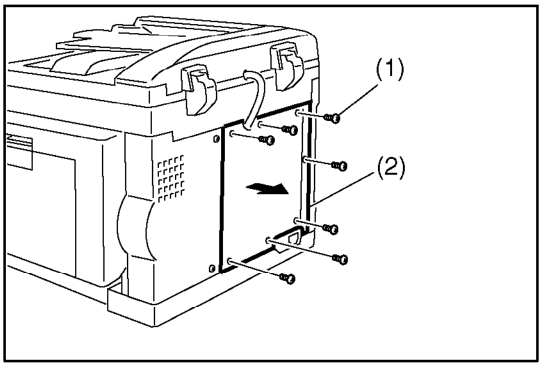
8.3. Installing the Sorting Image Memory 8/16/64/128 MB (DA-SM08B/16B/64B/28B)

8.3.1. Contents

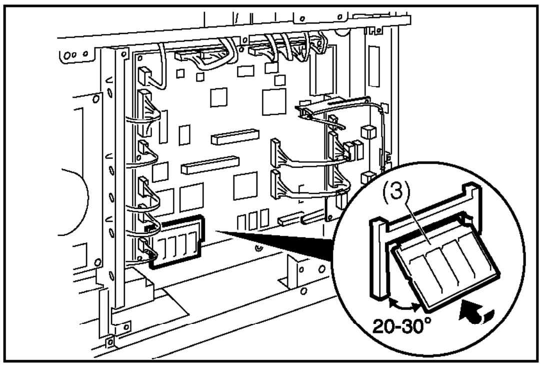
Qty.	Description	Part No.	Remarks
1	SDRM PC Board	DZEC101554	8 MB
		DZEC101666	16 MB
		DZEC101919	64 MB (For EU Only)
		DZEC101667	128 MB
1	Installation Instructions	DZSM000262	For U.S.A. and Canada
		DZSM000402	For Other Destinations

8.3.2. Installation

Note:
Turn the Power Switch to the OFF (O) position and unplug the AC Power Cord before beginning installation.



(1) Remove 7 Screws.
(2) Remove the Rear Plate.



(3) Insert the SDRM PC Board into the SC PC Board as illustrated on the left.

Note:
Make sure to insert the SDRM PC Board at a 20 - 30° angle into the memory socket, and then lock it down.

(4) Proceed with the installation of other options. If finished, re-install the Rear Plate and remaining Covers.

8.4. Installing the Automatic Document Feeder (DA-AS180) for DP-1510P/1810P/2010E

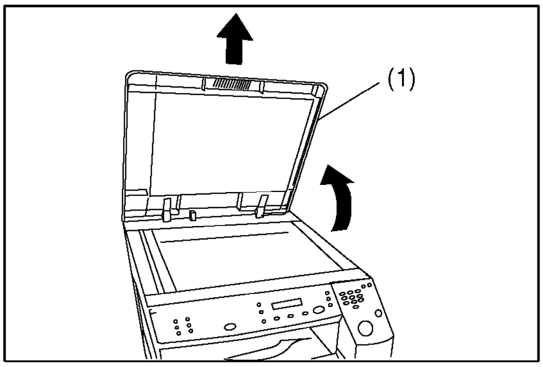
8.4.1. Contents

Qty.	Description	Part No.	Remarks
1	Automatic Document Feeder (ADF)	See Note	Standard on DP-1810F
2	Angle Plate	DZJA000858	
1	Scanning Pad	DZHP006374	
2	Screw	DZPB000007	
4	Screw	XTB3+12J	
1	Installation Instructions	DZSM000523	

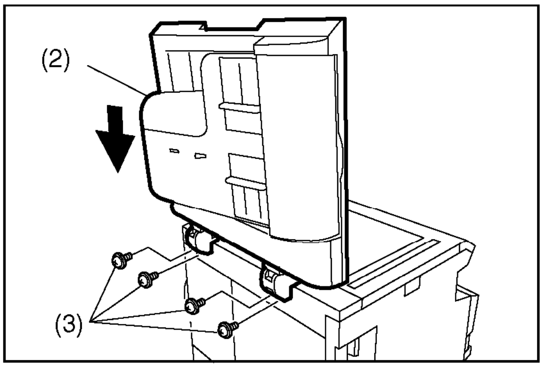
Note:
The part number differs depending on the Destination. Refer to the Parts Manual.

8.4.2. Installation

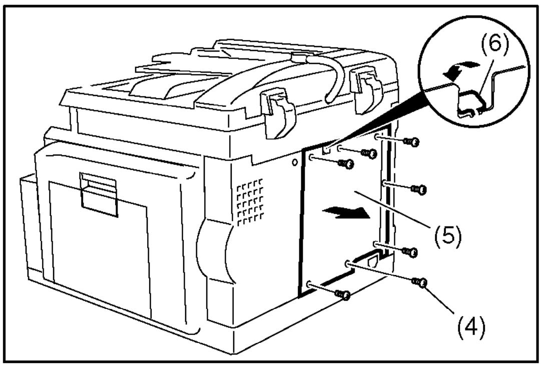
Note:
Turn the Power Switch to the OFF (O) position and unplug the AC Power Cord before beginning installation.



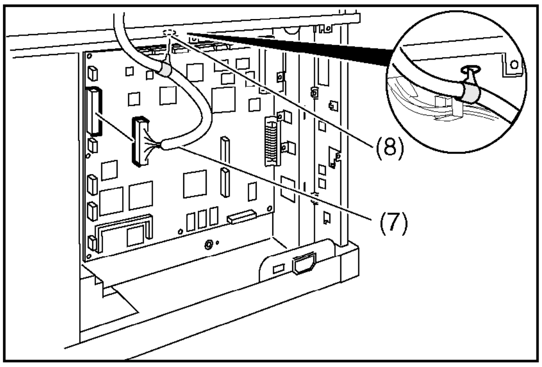
(1) Open and remove the Platen Cover.



(2) Install the Automatic Document Feeder into the 2 Mounting Holes.
(3) Secure the ADF with 4 Screws (XTB3+12J).

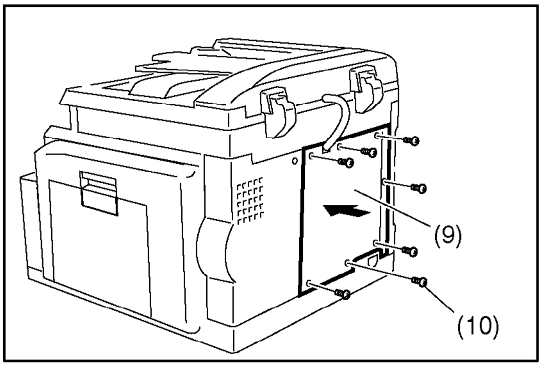


(4) Remove 7 Screws.
(5) Remove the Rear Plate.
(6) Bend the protective Tab on the Rear Plate further than 90° as illustrated on the left.

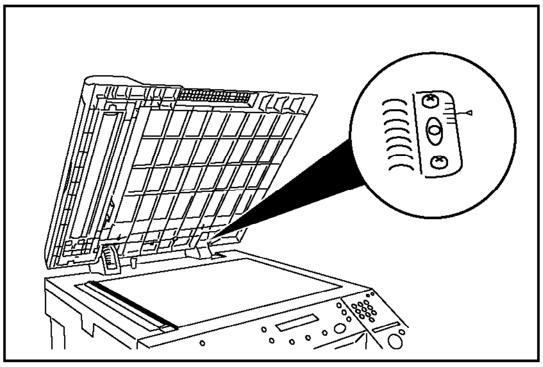


(7) Connect the Harness to CN3 on the SC PC Board.
(8) Insert the Harness Clamp into a pre-drilled hole in the frame (from underside).

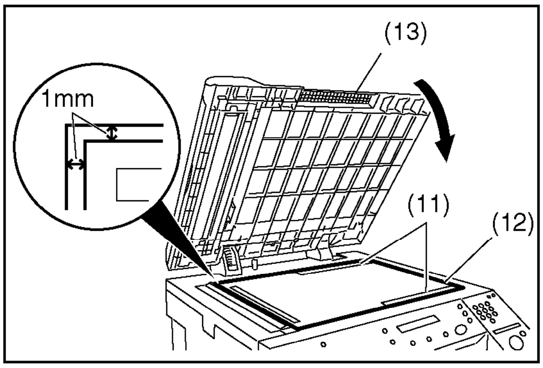
Note:
Do not cut the Harness Clamp (Tie-Wrap) when servicing. Push the release clip on the side to remove it.



(9) Re-install the Rear Plate.
(10) Secure the Rear Plate with 7 Screws removed in step (4).

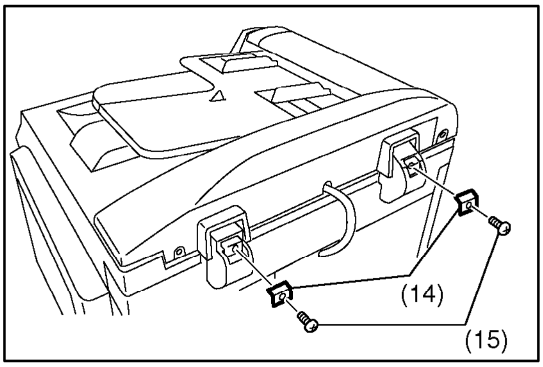


Note:
Align the ADF if required by following the steps below.
(A) Release the 4 Screws.
(B) Adjust the right side of the ADF and the ADF Mounting Bracket as illustrated on the left.
(C) Secure the 4 Screws.



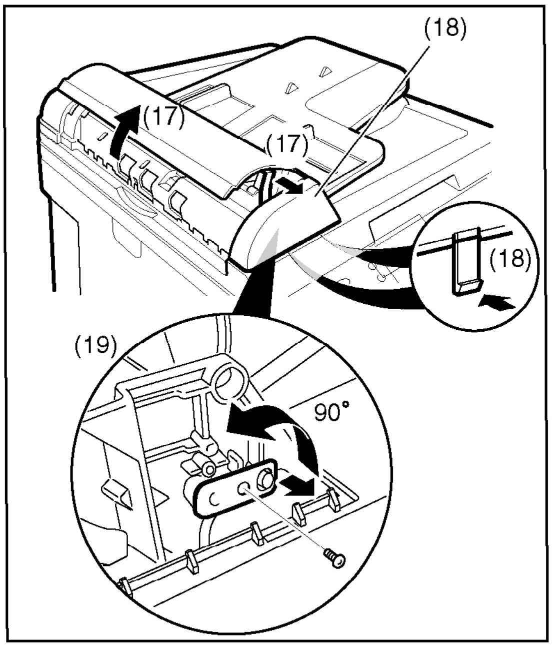
(11) Peel off the 2 adhesive protectors from the Scanning Pad.
(12) Place the Scanning Pad on the glass, aligning with the upper left corner, keeping 1mm space as shown on the left.
(13) Close the ADF.

Note:
Re-open the ADF Unit and push the Scanning Pad gently to paste it properly.



(14) Install 2 Angle Plates.
(15) Secure 2 Angle Plates with 2 Screws (DZPB000007).

Note:
When installing the ADF Unit, set the **Default Value** of **Sort Copy Mode** to **“ON”**.



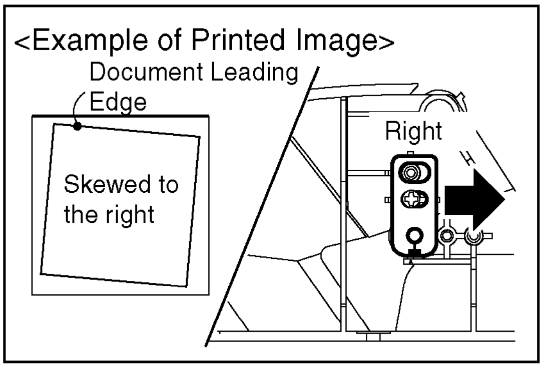
(16) Copy the Original using ADF.

**<Check the Original alignment.
If necessary, adjust by following steps below>**

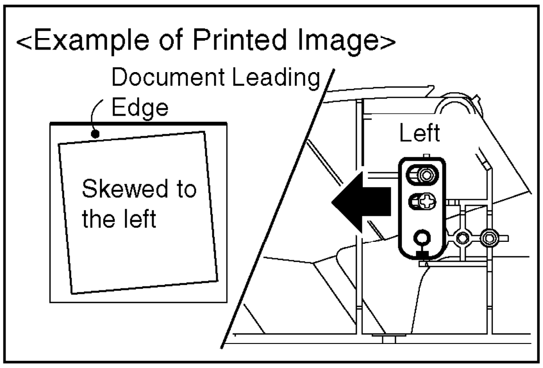
(17) Open the ADF Cover and release the Stopper.
(18) Remove the ADF Front Cover.

Note:
Release the 2 Latch Hooks from back by opening the ADF.

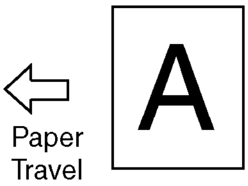
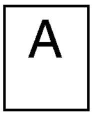
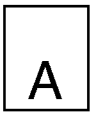
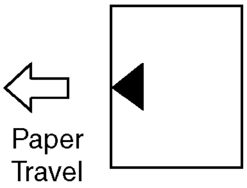
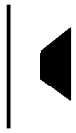
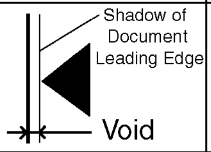
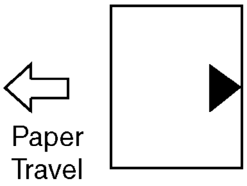
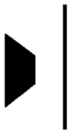
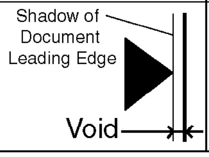
(19) Remove 1 Screw and turn the Adjust Bracket counter-clockwise.



(20) If the Document is Skewed to the right, set the Adjusting Bracket to the right and secure with 1 Screw.

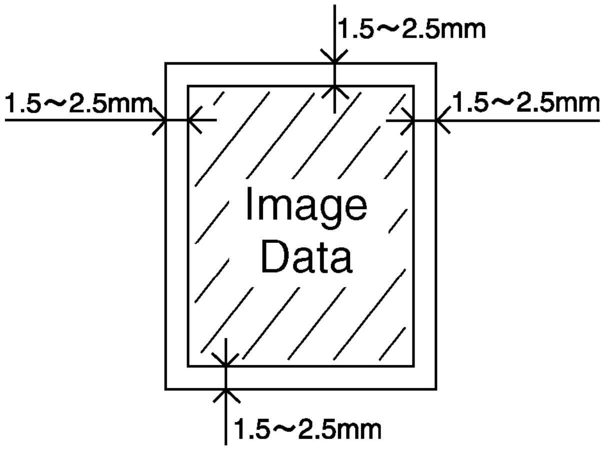

<Example of Printed Image>
Document Leading Edge
Skewed to the left
Left

(21) If the Document is Skewed to the left, set the Adjusting Bracket to the left and secure with 1 Screw.

	Document	Printed Image	Adjustment	Adjustment Amount	Remarks
No. 90 ADF Detection Timing (ADF Image Read Start Position Adjustment)	 Paper Travel		+	0.2mm/1 Point	After setting the Parameter, reboot the machine to enable the Parameter Setting.
			−	0.2mm/1 Point	
No. 91 ADF Original Leading Edge Registration (Original Lead Edge Detection Timing Adjustment)	 Paper Travel		−	0.2mm/1 Point	Rebooting is not necessary to enable the Parameter Setting.
		 Shadow of Document Leading Edge Void	+	0.2mm/1 Point	
No. 93 ADF Original Trailing Edge Registration (Original Trail Edge Detection Timing Adjustment)	 Paper Travel		+	0.2mm/1 Point	
		 Shadow of Document Leading Edge Void	−	0.2mm/1 Point	
No. 94 ADF Magnification Ratio (Top Feed) (Ratio Adjustment when the scan is made)	Reduced	+		0.1%/1 Point	
	Enlarged	−		0.1%/1 Point	

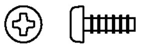
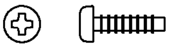
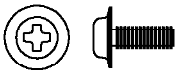
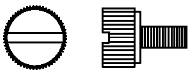
< When Adjusting the ADF Unit >

Adjust the ADF Unit to scan the lined part (inside of the margin 1.5 - 2.5mm) on the document as shown on the right.



8.5. Installing the Inverting Automatic Document Feeder (DA-AR201) for DP-2010E

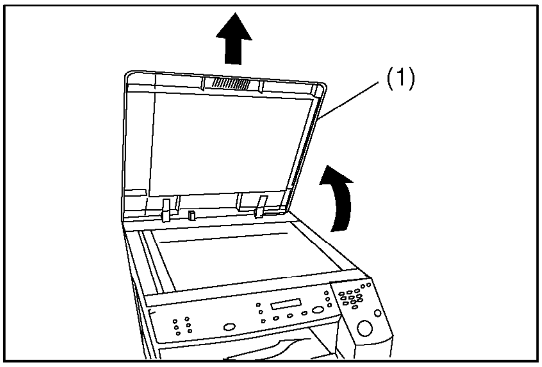
8.5.1. Contents

Qty.	Description	Part No.	Remarks
1	Inverting Automatic Document Feeder (i-ADF)	See Note	For DP-2010E
1	Scanning Pad	DZJM000428	
2	Hinge Stopper	DZJA000726	
2	Hinge Cover	DZMC000713	
2	ADF Mounting Bracket	DZJA000730	
1	i-ADF OPS Actuator	DZJM001007	For DA-AR201 Only
1	i-ADF Rear Support Bracket	DZJD000035	
9	Screw	XTB8+8J	
8	Screw	XTB3+12J	
2	Silver Screw	XSN4+W10FN	
2	Thumb Screw	DZPA000064	
1	Installation Instructions	DZSM000551	This Document

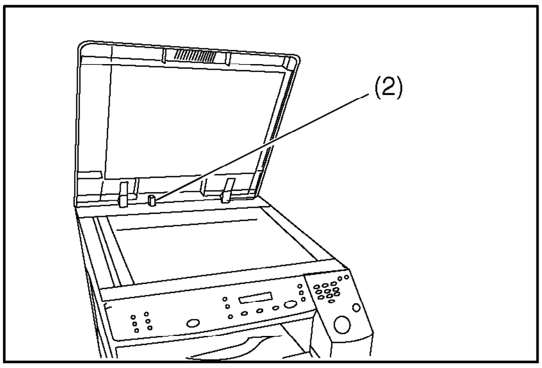
Note:
The part number differs depending on the Destination. Refer to the Parts Manual.

8.5.2. Installation

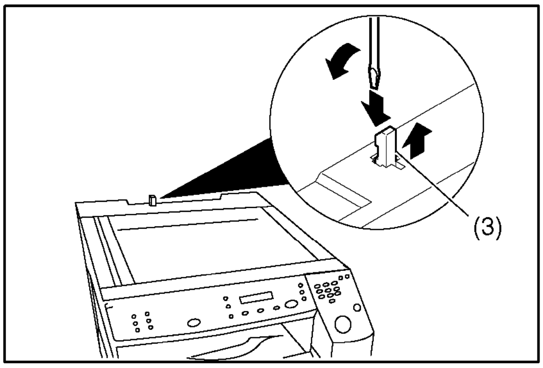
Note:
Turn the Power Switch to the OFF (O) position and unplug the AC Power Cord before beginning installation.



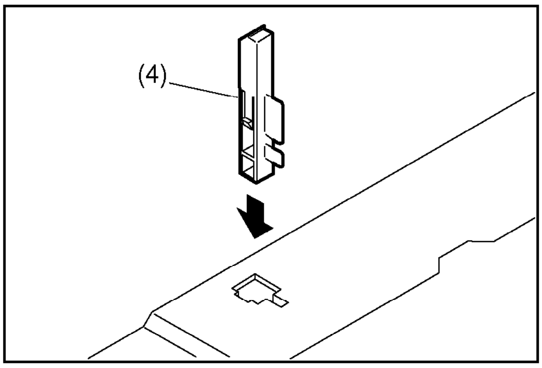
(1) Open and remove the Platen Cover.



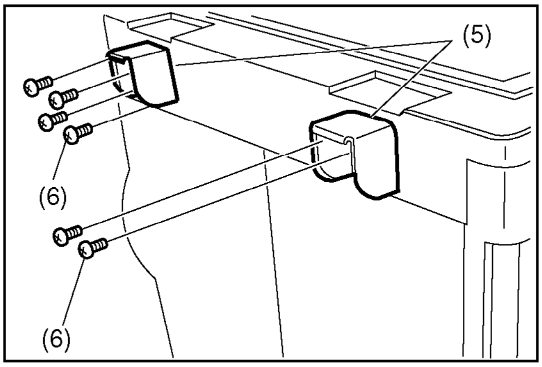
(2) Replace the OPS Actuator with the i-ADF OPS Actuator by following the steps below.



(3) Using a Slotted Blade Screwdriver, remove the OPS Actuator as illustrated.



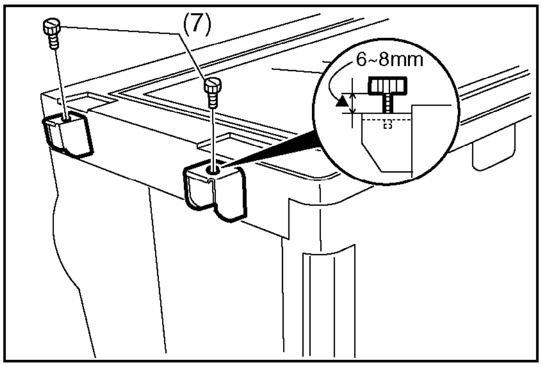
(4) Install the i-ADF OPS Actuator.



(5) Install the 2 ADF Mounting Brackets.

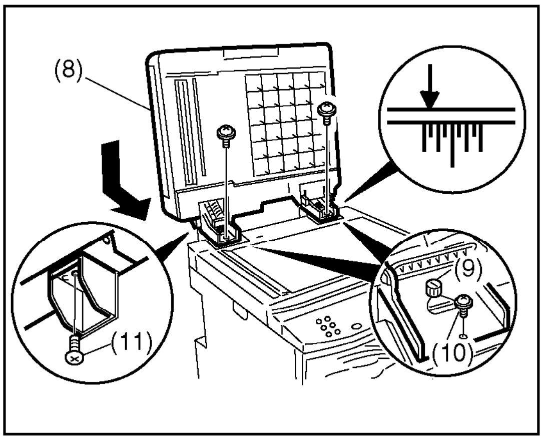
(6) Secure the 2 brackets with 6 Screws (XTB3+12J) as illustrated.

Note:
The remaining 2 Screws (XTB3+12J) will be installed in step (20).



(7) Install 2 Thumb Screws (DZPA000064). (One for each ADF Mounting Bracket)

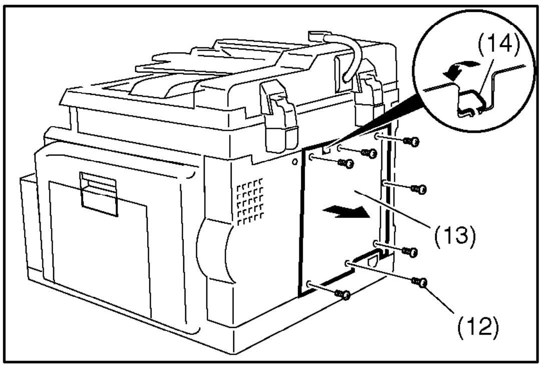
Note:
When installing the Thumb Screws, do NOT tighten them. Leave a clearance of approx. 6-8 mm, as illustrated.



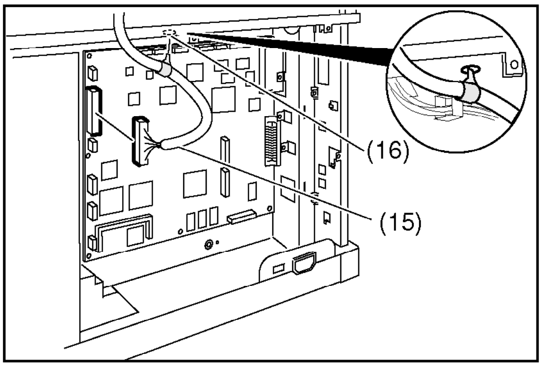
(8) Install the i-ADF on top of the ADF Mounting Brackets.

Note:
a. Set the i-ADF in the direction of the arrow.
b. Align the hallmark on the right side of the Hinge Base and the ADF Mounting Bracket as illustrated.

(9) Tighten the 2 Thumb Screws (DZPA000064).
(10) Secure the Automatic Document Feeder with 2 Silver Screws (XSN4+W10FN).
(11) Install 1 Screw (XTB3+8J) on the back of the left ADF Mounting Bracket from the bottom as illustrated.

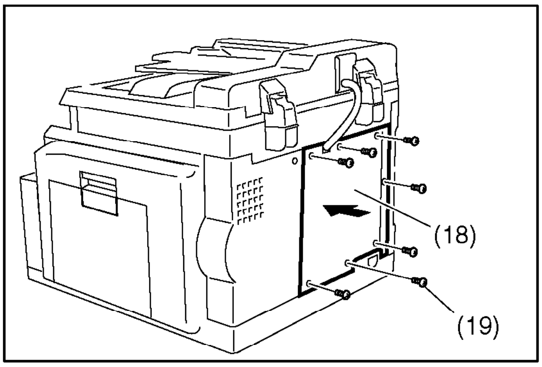


(12) Remove 7 Screws.
(13) Remove the Rear Plate.
(14) Bend the protective Tab on the Rear Plate further than 90° as illustrated.

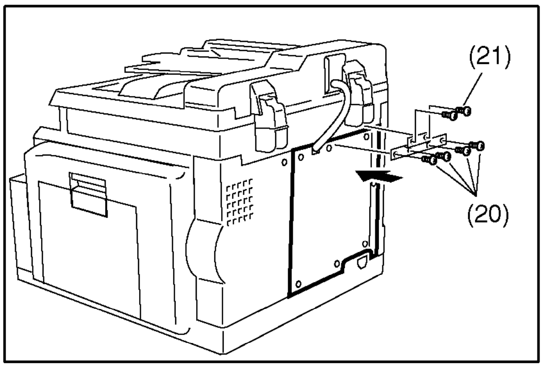


(15) Connect the i-ADF Harness to CN3 on the SC PC Board.
(16) Insert the Harness Clamp into the pre-drilled hole in the frame (from underneath).

Note:
Do not cut the Harness Clamp (Tie-Wrap) when servicing. Push the release clip on the side of the clamp to remove it.

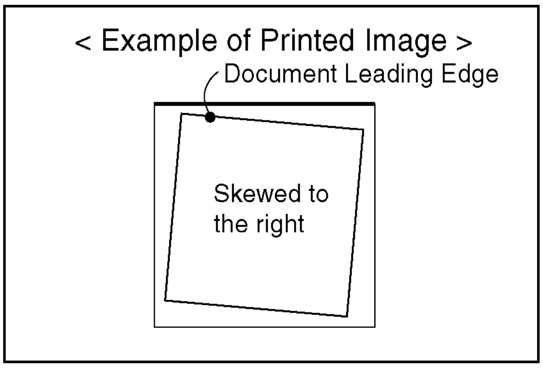


(17) Before proceeding, install the other options first. If finished, close the i-ADF.
(18) Re-install the Rear Plate.
(19) Secure the Rear Plate with 7 Screws removed in step (12).

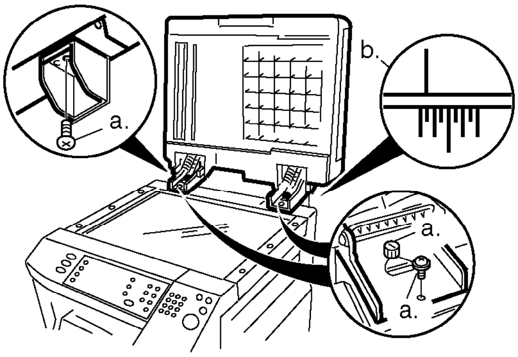


(20) Secure the i-ADF Rear Support Bracket with 4 Screws (XTB3+8J).

(21) Secure the i-ADF Rear Support Bracket with 2 Screws (XTB3+12J).


< Example of Printed Image >
Document Leading Edge
Skewed to the right

(22) Using a 20 lb (80 g/m2) lined original, make a copy from the ADF to check the feed alignment.



(23) Check the printed copy. If the printed image is skewed either to the Right or Left, adjust the ADF position following the procedure below:

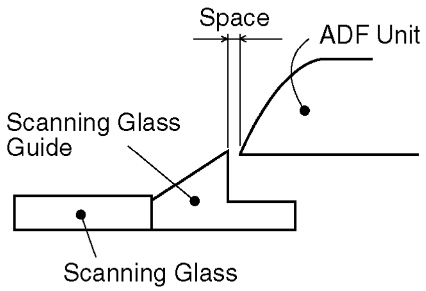
a. Loosen the 5 Screws securing the ADF.

b. Using the Hallmark on the Right Hinge Base and the ADF Mounting Bracket as a guide, shift the ADF position by following the procedure below:

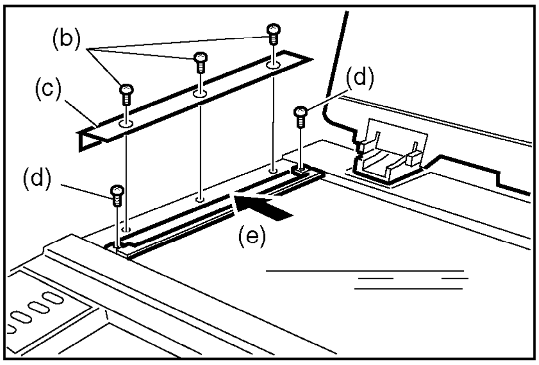
   - When the printed image is skewed to the right, shift the ADF slightly toward the front of the machine.
   - When the printed image is skewed to the left, shift the ADF slightly toward the rear of the machine.

c. Tighten the 5 Screws loosened in step (23a).

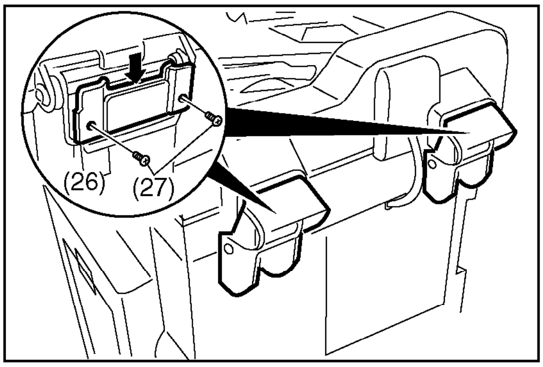
d. Repeat step (22) to recheck the feed alignment and readjust the ADF position as needed.


Space
ADF Unit
Scanning Glass Guide
Scanning Glass

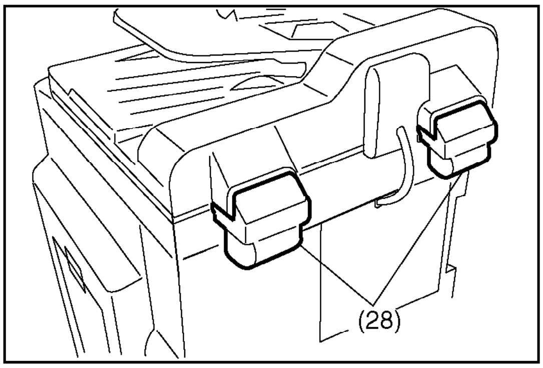
(24) Check the space between the ADF Unit and the Scanning Glass Guide as illustrated.



(25) If there is no space, adjust the Platen Glass position by following the procedure below:
  a. Open the ADF Unit.
  b. Remove 3 Silver Screws.
  c. Remove the Left Platen Cover.
  d. Loosen 2 Screws.
  e. Shift the Scanning Glass Guide to the left and tighten the 2 Screws.
  f. Re-install the Left Platen Cover and secure it with 3 Silver Screws.

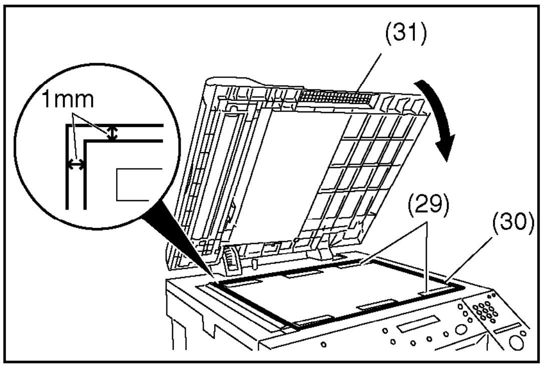


(26) Install the 2 Hinge Stoppers.
(27) Secure the 2 Hinge Stoppers with 4 Screws (XTB3+8J).



(28) Install the 2 Hinge Covers.

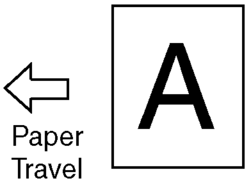
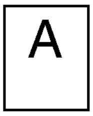
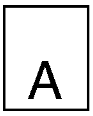
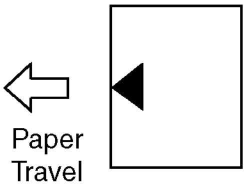
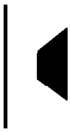
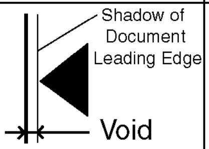
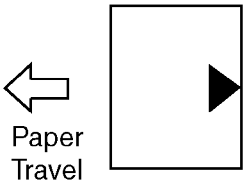
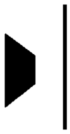
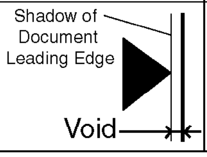
Note:
When installing the Hinge Covers, make sure that a Hinge Film is placed inside of each Hinge Cover.



(29) Peel off the 6 adhesive protectors from the Scanning Pad.
(30) Place the Scanning Pad on the glass aligning it on the upper left corner, keeping 1mm space as illustrated.
(31) Close the Automatic Document Feeder.

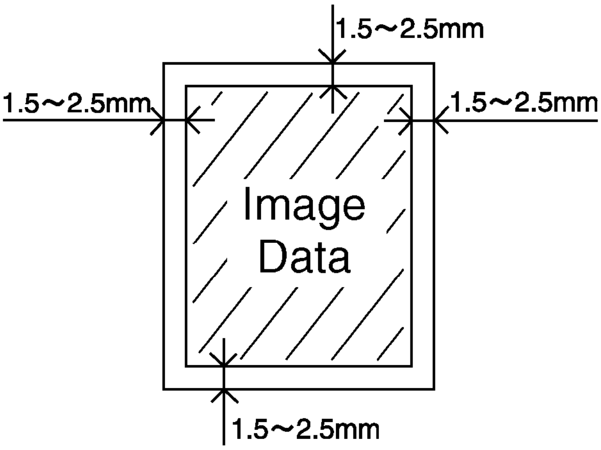
Note:
Re-open the ADF Unit and push the Scanning Pad gently to paste it properly.

(32) Perform Service Mode F6 (No. 90, 91, 93 and 94) to adjust the ADF Scanning Position.

	Document	Printed Image	Adjustment	Adjustment Amount	Remarks
No. 90 ADF Detection Timing (ADF Image Read Start Position Adjustment)	 A Paper Travel		+	0.2mm / 1 Point	After setting the Parameter, reboot the machine to enable the Parameter Setting.
			−	0.2mm / 1 Point	
No. 91 ADF Original Leading Edge Registration (Original Lead Edge Detection Timing Adjustment)	 Paper Travel		−	0.2mm / 1 Point	Rebooting is not necessary to enable the Parameter Setting.
		 Shadow of Document Leading Edge Void	+	0.2mm / 1 Point	
No. 93 ADF Original Trailing Edge Registration (Original Trail Edge Detection Timing Adjustment)	 Paper Travel		+	0.2mm / 1 Point	
		 Shadow of Document Leading Edge Void	−	0.2mm / 1 Point	
No. 94 ADF Magnification Ratio (Top Feed) (Ratio Adjustment when the scan is made)	Reduced	+		0.1% / 1 Point	
	Enlarged	−		0.1% / 1 Point	

< When Adjusting the ADF Unit >

Adjust the ADF Unit to scan the lined part
(inside of the margin 1.5 - 2.5mm)
on the document as shown on the right.


1.5~2.5mm
1.5~2.5mm
1.5~2.5mm
Image Data
1.5~2.5mm

8.6. Installing the 2nd/3rd/4th Paper Feed Module (DA-DS182/183)

8.6.1. Contents

2nd/4th Paper Feed Module (DA-DS182)

Qty.	Description	Part No.	Remarks
1	2nd/4th Paper Feed Module	See Note	
1	Paper Size Label	DZNK002813	For U.S.A. and Canada
		DZNK002814	For Other Destinations
2	Guide-Pin	DZJD000034	
5	Screw	XTB3+8J	
1	Harness, CST4	DZFP001313	
1	Installation Instructions	DZSM000521	

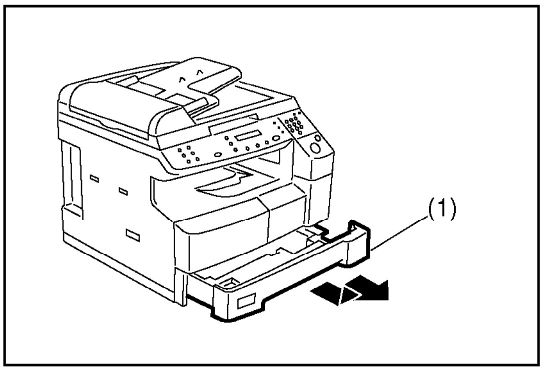
3rd Paper Feed Module (DA-DS183)

Qty.	Description	Part No.	Remarks
1	3rd Paper Feed Module	See Note	
1	Paper Size Label	DZNK002813	For U.S.A. and Canada
		DZNK002814	For Other Destinations
2	Guide-Pin	DZJD000034	For U.S.A. and Canada
5	Screw	XTB3+8J	
1	Harness, CST4	DZFP001313	
1	Installation Instructions	DZSM000521	

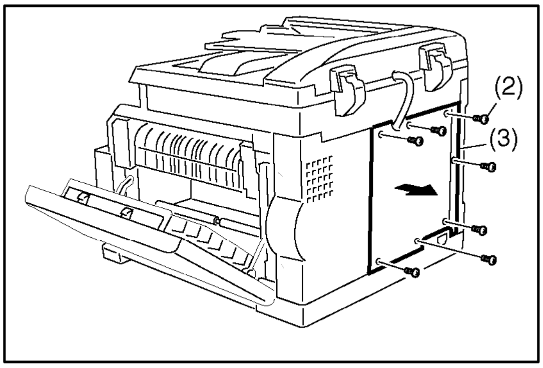
Note:
The part number differs depending on the Destination. Refer to the Parts Manual.

8.6.2. Installing the 2nd Paper Feed Module for the DP-1510P/1810P/1810F/2010E (Except DP-2010E for USA and Canada)

Note:
Turn the Power Switch to the OFF (O) position and unplug the AC Power Cord before beginning installation.

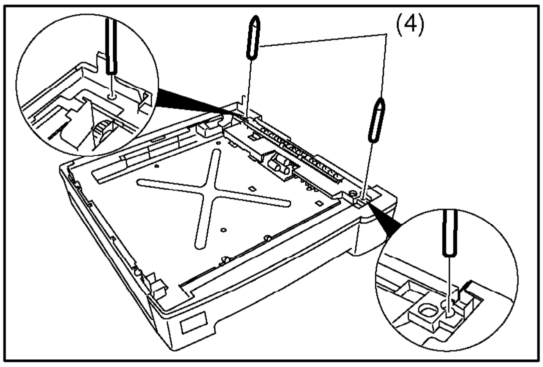


(1) Slide the Paper Tray all the way out.

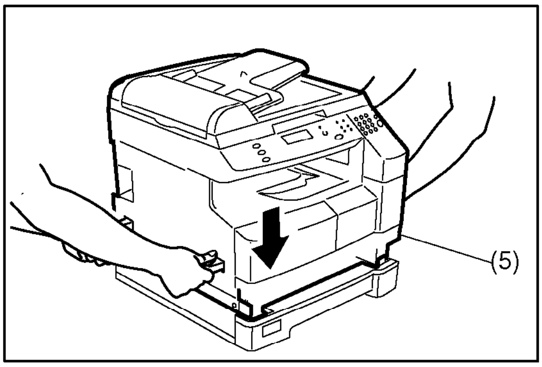


(2) Remove 7 Silver Screws.

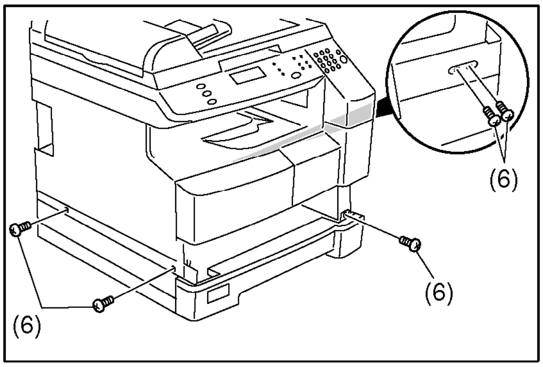
(3) Remove the Rear Plate.



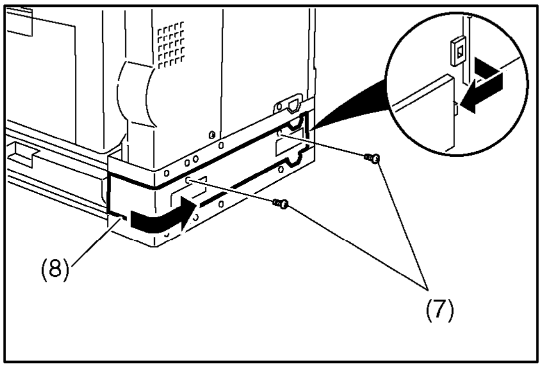
(4) Install 2 Guide-Pins.



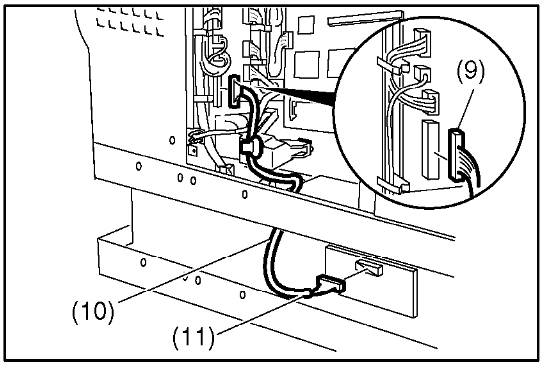
(5) Place the machine on top of the 2nd Paper Feed Module as illustrated on the left.



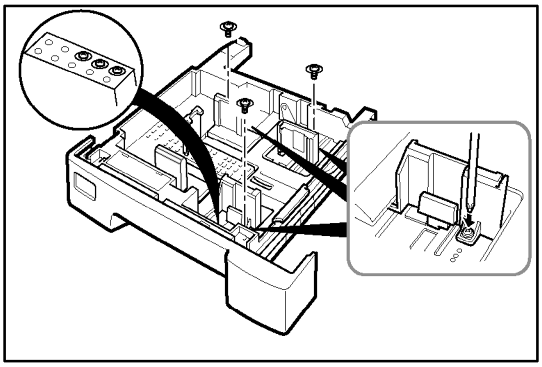
(6) Secure the 2nd Paper Feed Module with 5 Screws (XTB3+8J).



(7) Remove 2 Silver Screws
(2nd Paper Feed Module).
(8) Remove the CST Rear Cover.



(9) Connect one end of the CST4 Harness (with Ferrite Core) to CN731 on the LPC3 PC Board.
(10) Insert the other end of the harness through the bottom opening in the frame.
(11) Connect the CST4 Harness to CN776 on the CST4 PC Board.
(12) Re-install the all Covers.

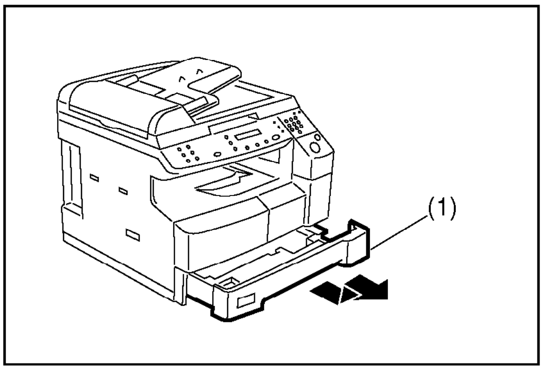


(13) Set the Paper Size Guide.
(14) Secure with 3 Screws which are stored inside of the Paper Tray, if necessary.

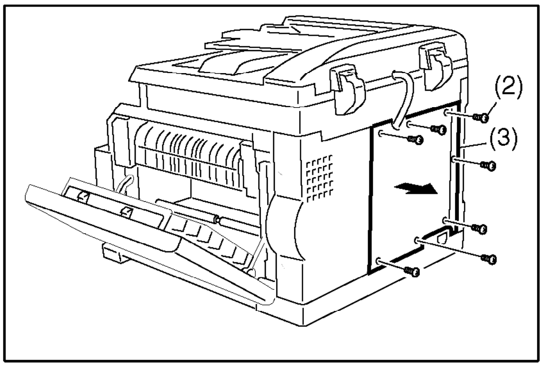
8.6.3. Installing the 2nd and 3rd Paper Feed Modules Together for DP-1810F/2010E (Except DP-2010E for USA and Canada)

Note:

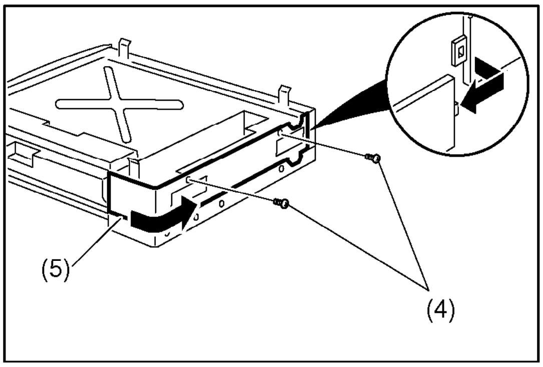
Turn the Power Switch to the OFF (O) position and unplug the AC Power Cord before beginning installation.



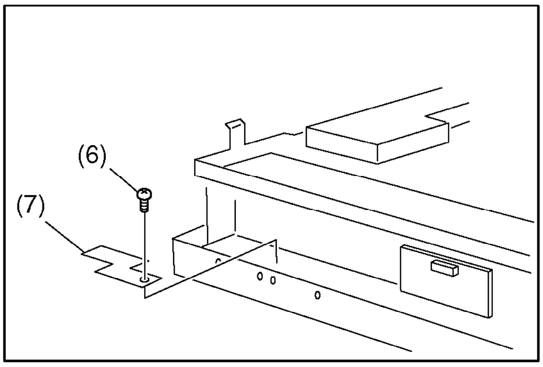
(1) Slide the Paper Tray all the way out.



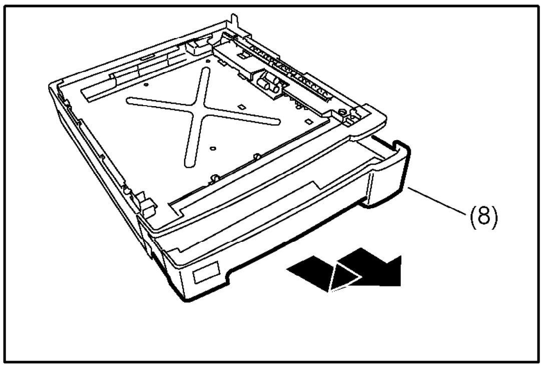
(2) Remove 7 Silver Screws.
(3) Remove the Rear Plate.



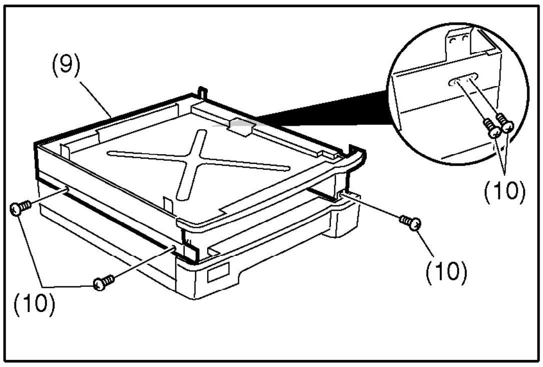
(4) Remove 2 Silver Screws
(2nd Paper Feed Module).
(5) Remove the CST Rear Cover.



(6) Remove 1 Screw.
(7) Remove the Drive Cover 2 Bracket.



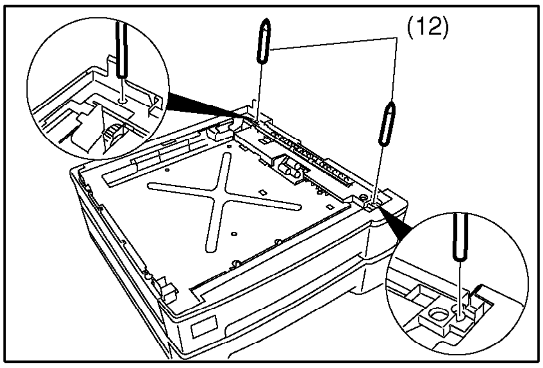
(8) Slide the 2nd Paper Tray all the way out.



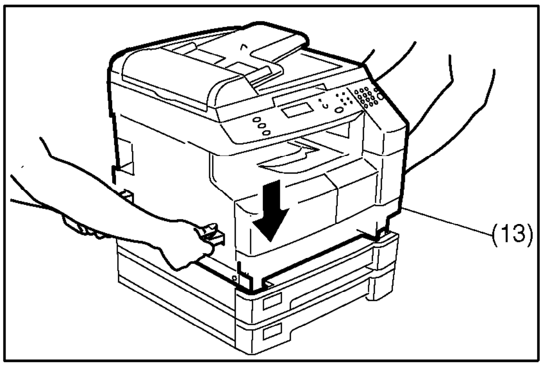
(9) Place the 2nd Paper Feed Module on top of the 3rd Paper Feed Module as illustrated on the left.

(10) Secure the 2nd Paper Feed Module with 5 Screws (XTB3+8J).

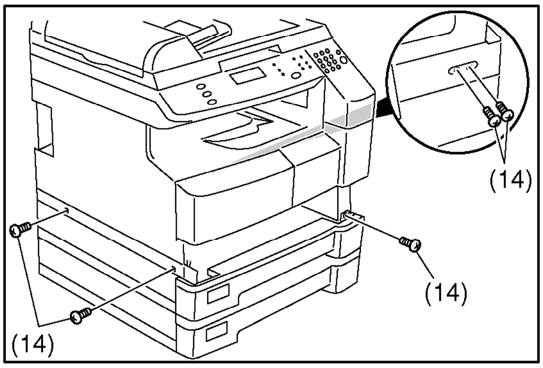
(11) Re-install the 2nd Paper Tray.



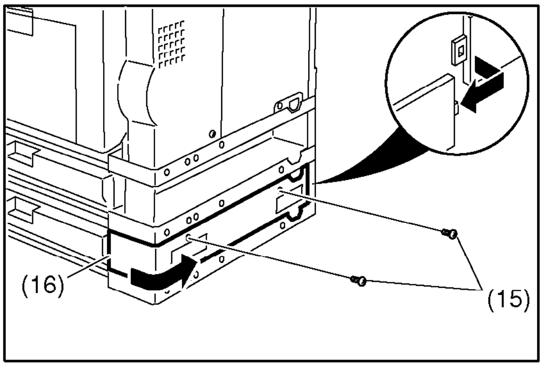
(12) Install 2 Guide-Pins.



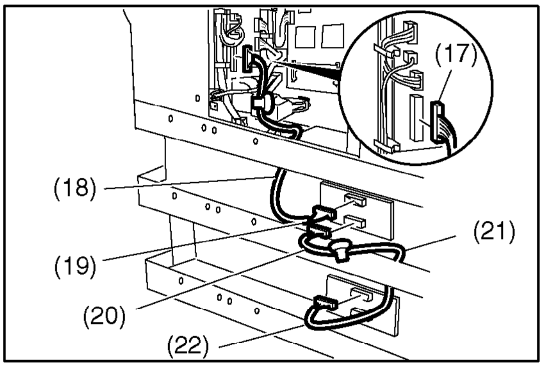
(13) Place the machine on top of the 2nd Paper Feed Module as illustrated on the left.



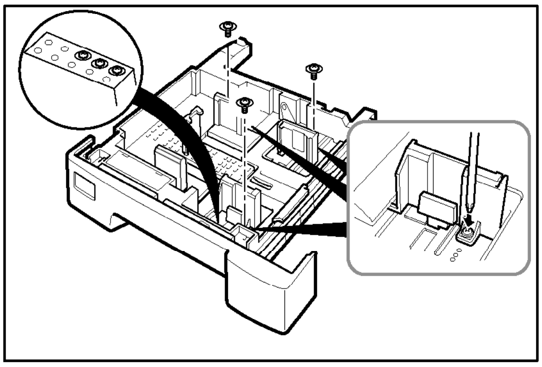
(14) Secure the 2nd Paper Feed Module with 5 Screws (XTB3+8J).



(15) Remove 2 Silver Screws (3rd Paper Feed Module).
(16) Remove the CST Rear Cover.



(17) Connect one end of the CST4 Harness (with Ferrite Core) to CN731 on the LPC3 PC Board.
(18) Insert the other end of the harness through the bottom opening in the frame.
(19) Connect the CST4 Harness to CN776 on the CST4 PC Board of the 2nd Paper Feed Module.
(20) Connect one end of the CST4 Harness (with Ferrite Core) to CN777 on the CST4 PC Board of the 2nd Paper Feed Module.
(21) Insert the other end of the harness through the bottom opening in the frame.
(22) Connect the CST4 Harness to CN776 on the CST4 PC Board of the 3rd Paper Feed Module.
(23) Re-install the all Covers.

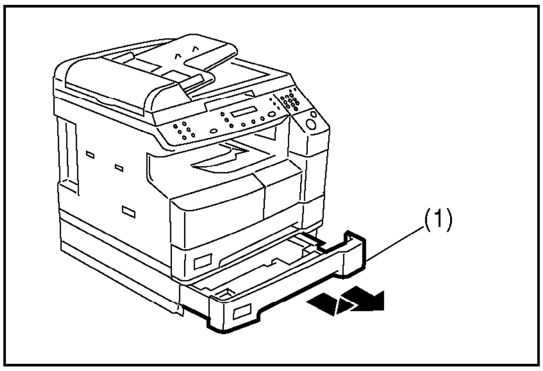


(24) Set the Paper Size Guide.
(25) Secure with 3 Screws which are stored inside of the Paper Tray, if necessary.

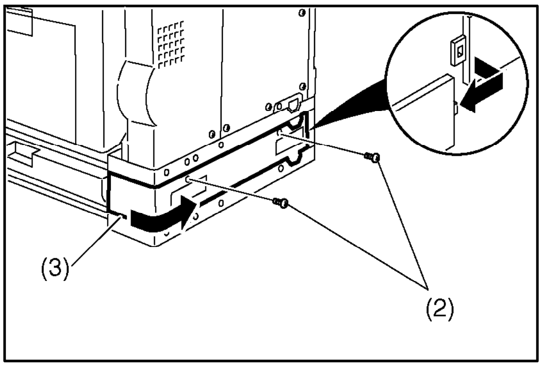
8.6.4. Installing the 3rd Paper Feed Module for DP-2010E (For USA and Canada)

Note:

Turn the Power Switch to the OFF (O) position and unplug the AC Power Cord before beginning installation.

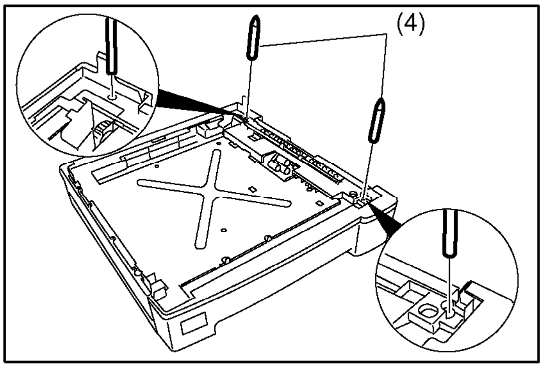


(1) Slide the 2nd Paper Tray all the way out.

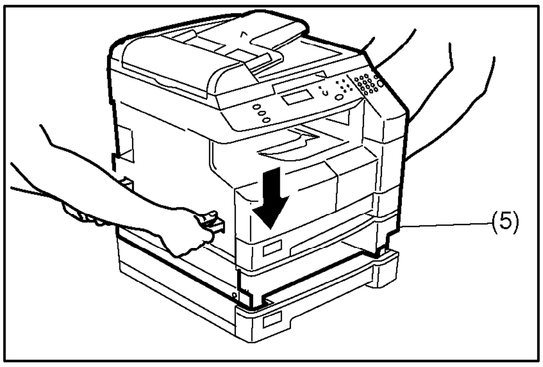


(2) Remove 2 Silver Screws (2nd Paper Feed Module).

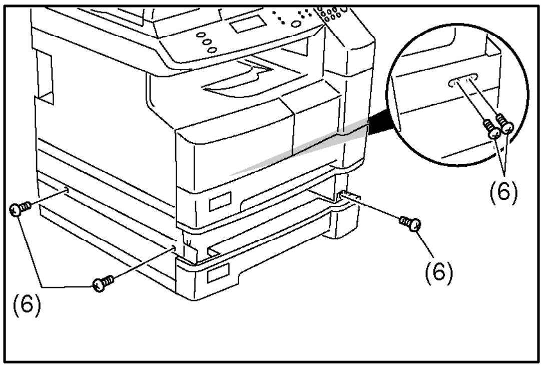
(3) Remove the CST Rear Cover.



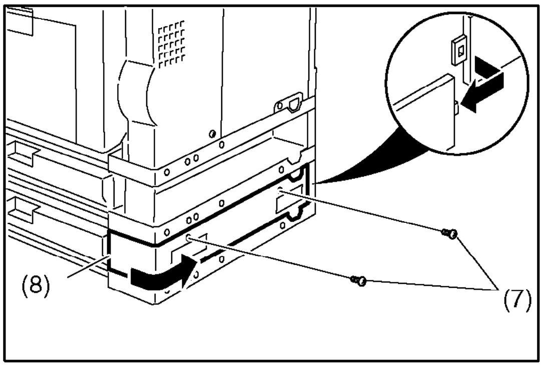
(4) Install 2 Guide-Pins.



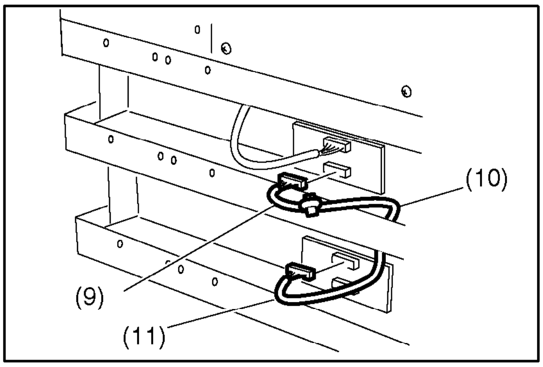
(5) Place the machine on top of the 3rd Paper Feed Module as illustrated on the left.



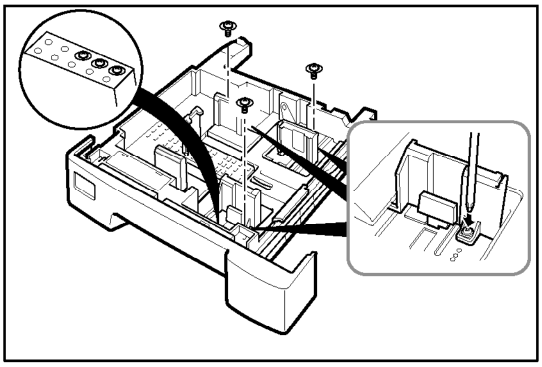
(6) Secure the 3rd Paper Feed Module with 5 Screws (XTB3+8J).



(7) Remove 2 Silver Screws (3rd Paper Feed Module).
(8) Remove the CST Rear Cover.



(9) Connect one end of the CST4 Harness (with Ferrite Core) to CN777 on the CST4 PC Board of the 2nd Paper Feed Module.
(10) Insert the other end of the harness through the bottom opening in the frame.
(11) Connect the CST4 Harness to CN776 on the CST4 PC Board of the 3rd Paper Feed Module.
(12) Re-install the all Covers.

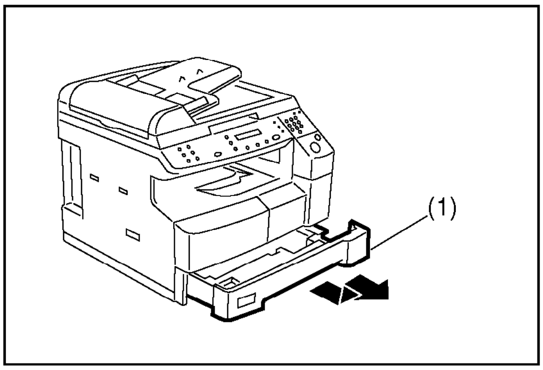


(13) Set the Paper Size Guide.
(14) Secure with 3 Screws which are stored inside of the Paper Tray, if necessary.

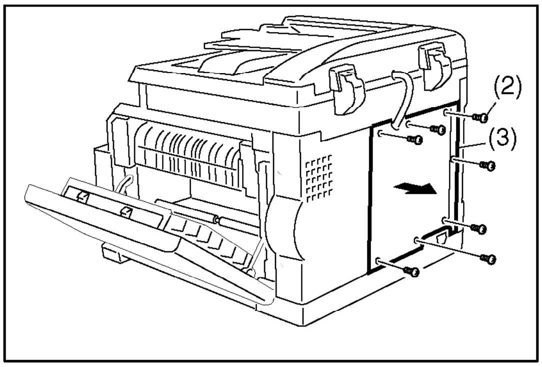
8.6.5. Installing the 2nd, 3rd and 4th Paper Feed Modules Together for DP-1810F/2010E (Except DP-2010E for USA and Canada)

Note:

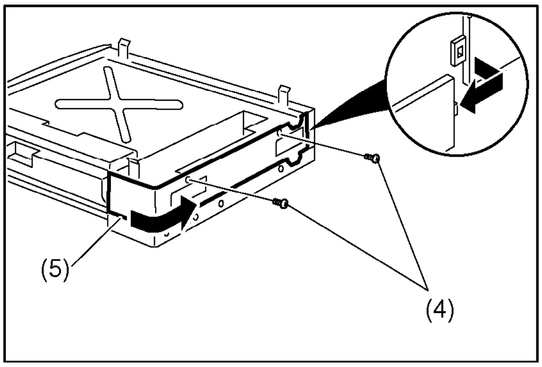
Turn the Power Switch to the OFF (O) position and unplug the AC Power Cord before beginning installation.



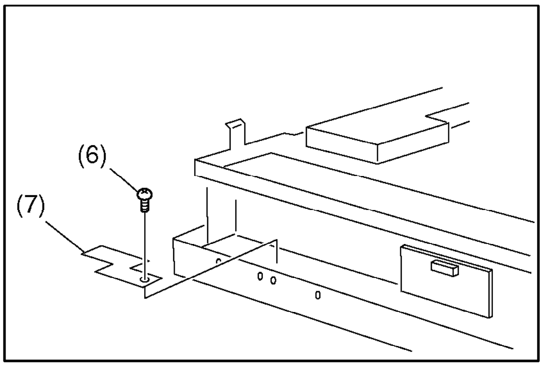
(1) Slide the Paper Tray all the way out.



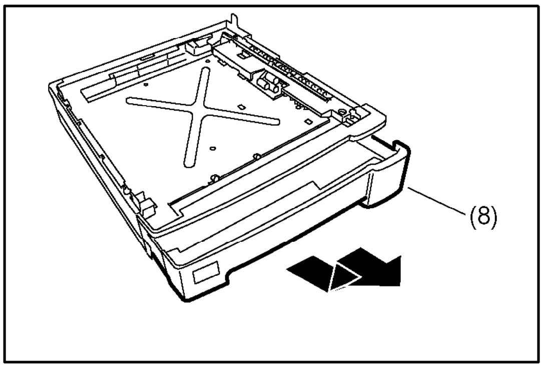
(2) Remove 7 Silver Screws.
(3) Remove the Rear Plate.



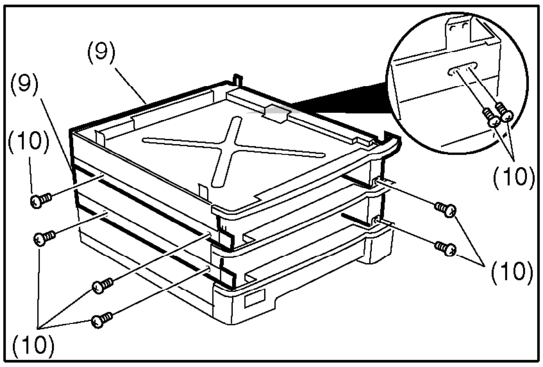
(4) Remove 2 Silver Screws
(2nd Paper Feed Module).
(5) Remove the CST Rear Cover.



(6) Remove 1 Screw.
(7) Remove the Drive Cover 2 Bracket.



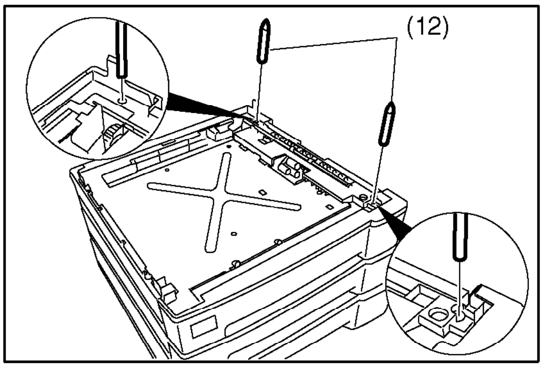
(8) Slide the 2nd and 3rd Paper Trays all the way out.



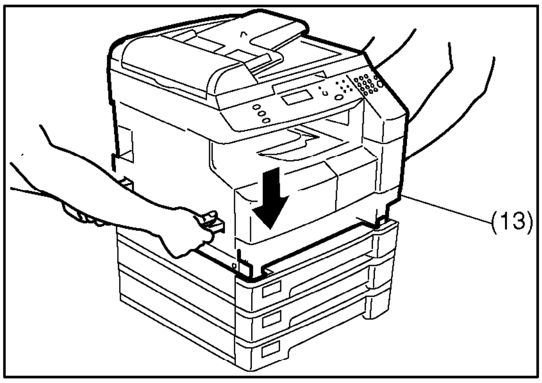
(9) Place the 3rd Paper Feed Module on top of the 4rd Paper Feed Module and then place the 2nd Paper Feed Module on top of the 3rd Paper Feed Module as illustrated on the left.

(10) Secure the 2nd and 3rd Paper Feed Modules with 10 Screws (XTB3+8J).

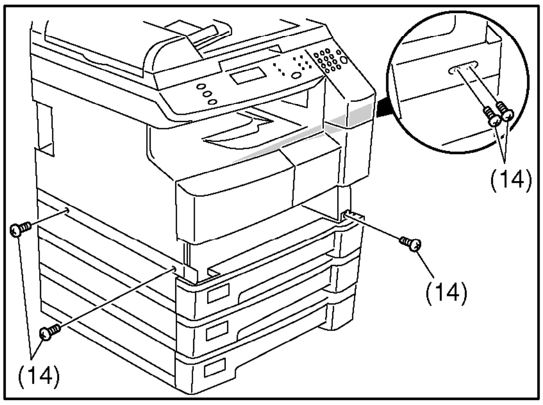
(11) Re-install the 2nd and 3rd Paper Trays.



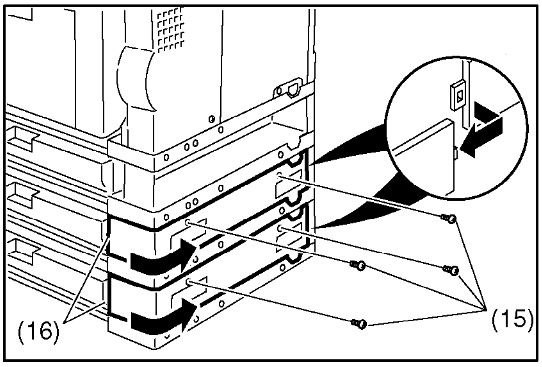
(12) Install 2 Guide-Pins.



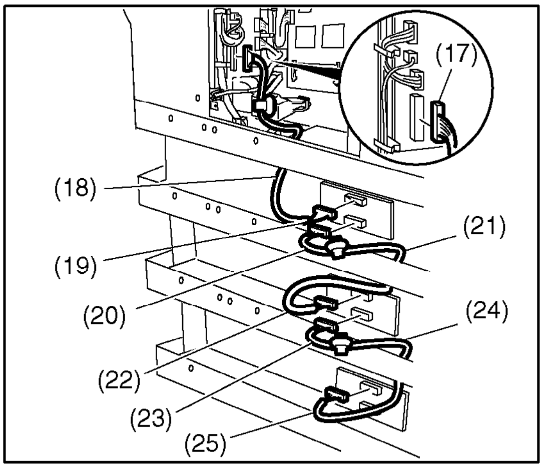
(13) Place the machine on top of the 2nd Paper Feed Module as illustrated on the left.



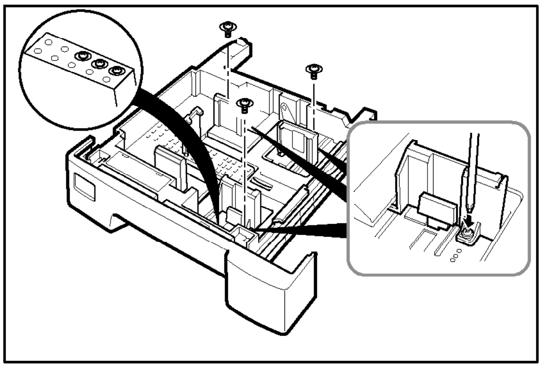
(14) Secure the 2nd Paper Feed Module with 5 Screws (XTB3+8J).



(15) Remove 4 Silver Screws (3rd and 4th Paper Feed Modules).
(16) Remove 2 CST Rear Covers.



(17) Connect one end of the CST4 Harness (with Ferrite Core) to CN731 on the LPC3 PC Board.
(18) Insert the other end of the harness through the bottom opening in the frame.
(19) Connect the CST4 Harness to CN776 on the CST4 PC Board of the 2nd Paper Feed Module.
(20) Connect one end of the CST4 Harness (with Ferrite Core) to CN777 on the CST4 PC Board of the 2nd Paper Feed Module.
(21) Insert the other end of the harness through the bottom opening in the frame.
(22) Connect the CST4 Harness to CN776 on the CST4 PC Board of the 3rd Paper Feed Module.
(23) Connect one end of the CST4 Harness (with Ferrite Core) to CN777 on the CST4 PC Board of the 3nd Paper Feed Module.
(24) Insert the other end of the harness through the bottom opening in the frame.
(25) Connect the CST4 Harness to CN776 on the CST4 PC Board of the 4th Paper Feed Module.
(26) Re-install the all Covers.



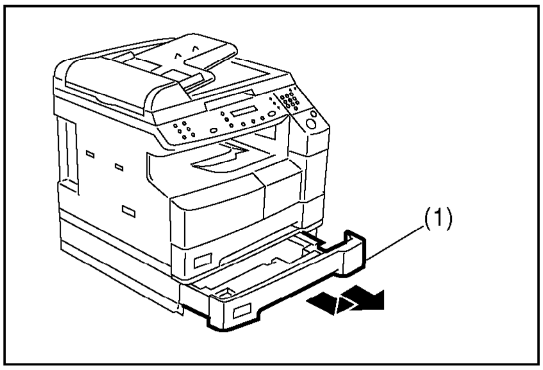
(27) Set the Paper Size Guide.

(28) Secure with 3 Screws which are stored inside of the Paper Tray, if necessary.

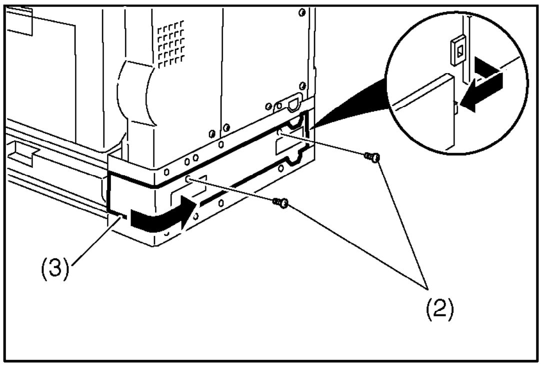
8.6.6. Installing the 3rd and 4th Paper Feed Modules Together for DP-2010E (For USA and Canada)

Note:

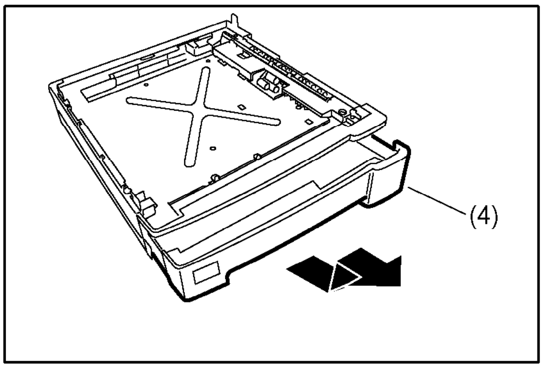
Turn the Power Switch to the OFF (O) position and unplug the AC Power Cord before beginning installation.



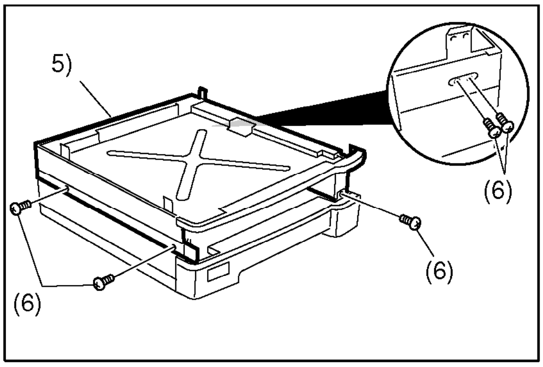
(1) Slide the 2nd Paper Tray all the way out.



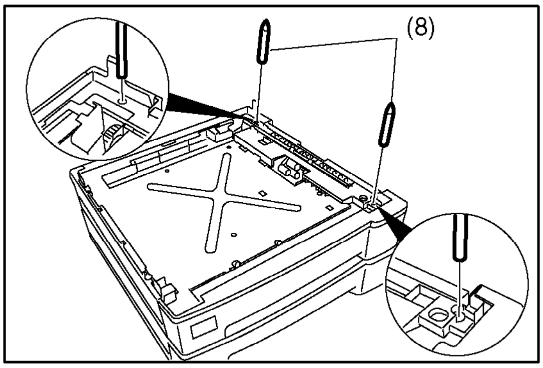
(2) Remove 2 Silver Screws
(2nd Paper Feed Module).
(3) Remove the CST Rear Cover.



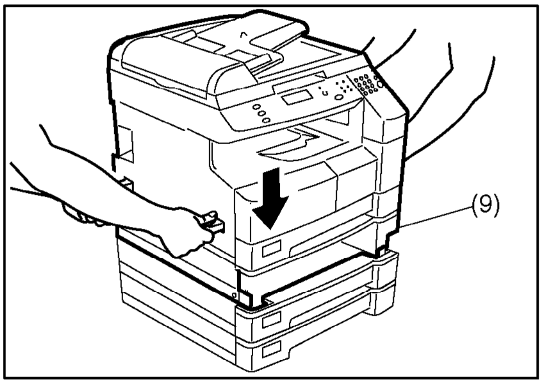
(4) Slide the 3rd Paper Tray all the way out.



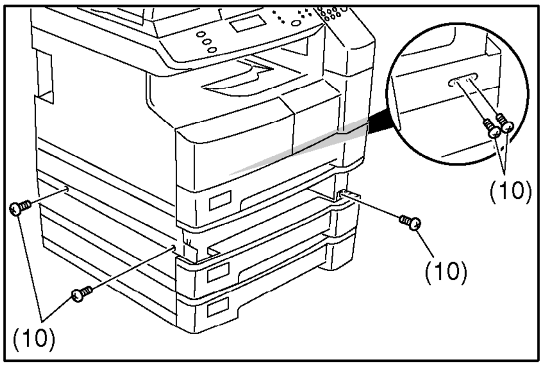
(5) Place the 3rd Paper Feed Module on top of the 4th Paper Feed Module as illustrated on the left.
(6) Secure the 3rd Paper Feed Module with 5 Screws (XTB3+8J).
(7) Re-install the 3rd Paper Tray.



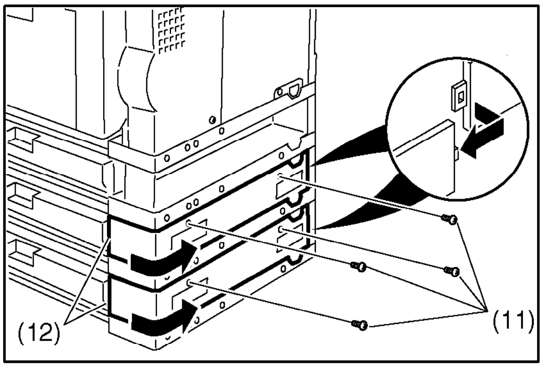
(8) Install 2 Guide-Pins.



(9) Place the machine on top of the 3rd Paper Feed Module as illustrated on the left.

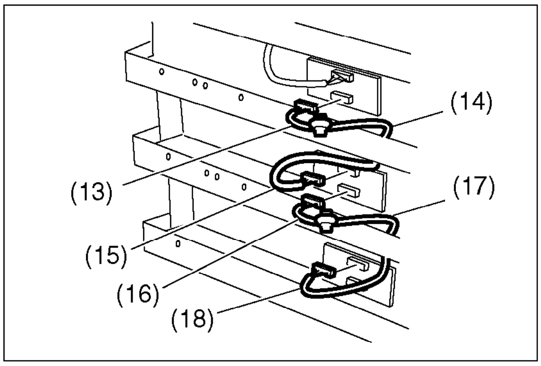


(10) Secure the 3rd Paper Feed Module with 5 Screws (XTB3+8J).

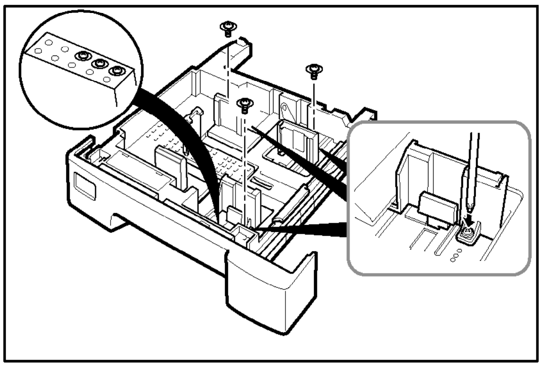


(11) Remove 4 Silver Screws (3rd and 4th Paper Feed Modules).

(12) Remove 2 CST Rear Covers.



(13) Connect one end of the CST4 Harness (with Ferrite Core) to CN777 on the CST4 PC Board of the 2nd Paper Feed Module.
(14) Insert the other end of the harness through the bottom opening in the frame.
(15) Connect the CST4 Harness to CN776 on the CST4 PC Board of the 3rd Paper Feed Module.
(16) Connect one end of the CST4 Harness (with Ferrite Core) to CN777 on the CST4 PC Board of the 3nd Paper Feed Module.
(17) Insert the other end of the harness through the bottom opening in the frame.
(18) Connect the CST4 Harness to CN776 on the CST4 PC Board of the 4th Paper Feed Module.
(19) Re-install the all Covers.



(20) Set the Paper Size Guide.
(21) Secure with 3 Screws which are stored inside of the Paper Tray, if necessary.

8.7. Installing the Handset Kit

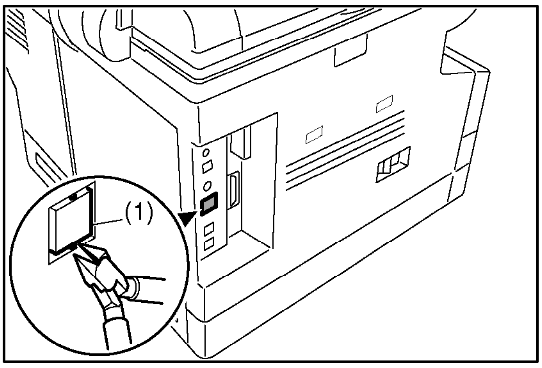
8.7.1. Contents

Qty.	Description	Part No.	Remarks
1	Handset	See Note	
1	Handset Cord	See Note	
1	Cradle Assembly	See Note	
1	Handset Cradle Stopper	DZSM000783	For UF-490 Only
1	Installation Instructions	DZSM000230	For U.S.A. and Canada
		DZSM000028	For Other Destinations

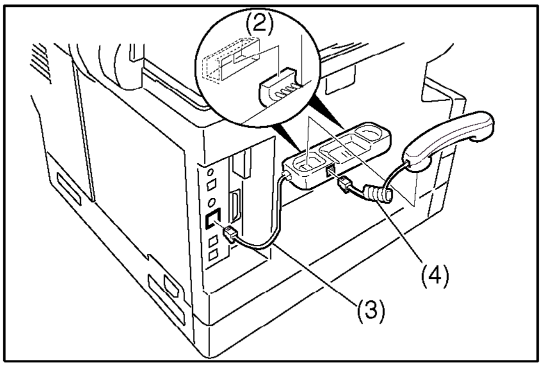
Note:
The part number differs depending on the Destination. Refer to the Parts Manual.

8.7.2. Installation for DP-1810F

Note:
Turn the Power Switch to the OFF (O) position and unplug the AC Power Cord and the Telephone Line Cable before beginning installation.



(1) Break off the protective tab covering the **HANDSET Jack** on the Left Side Cover.



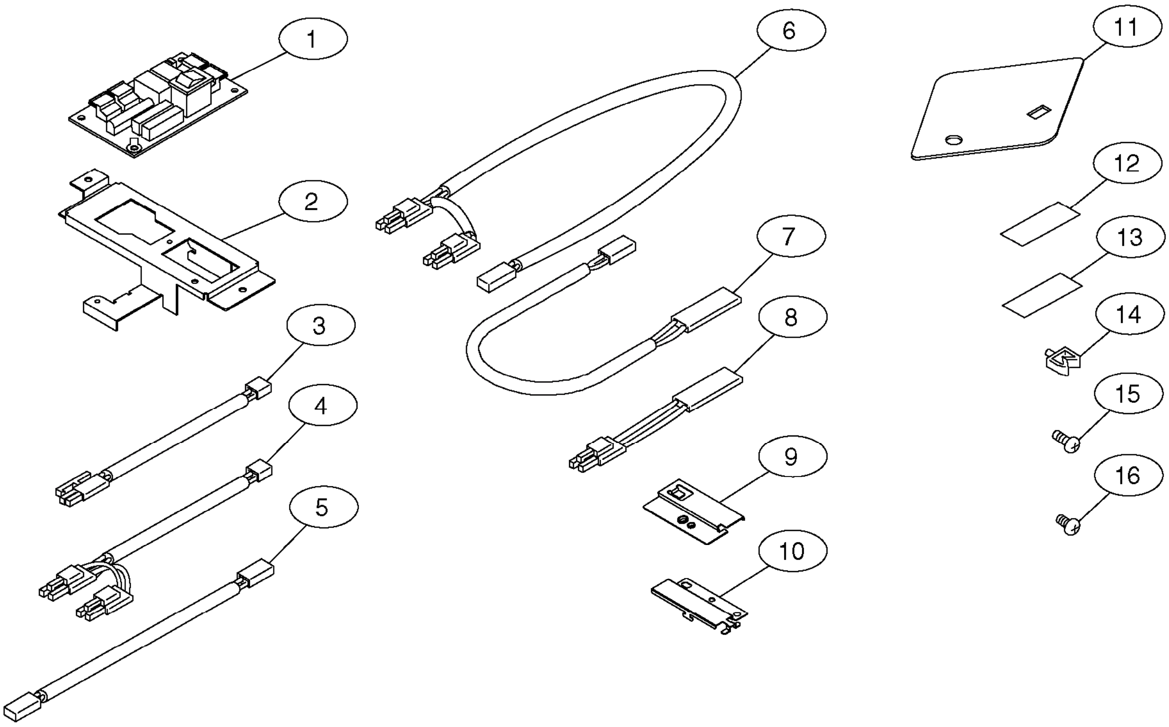
(2) Hook the projections of the Cradle Assembly into the holes on the Left Cover.
(3) Connect the **Cradle Assembly Cable** into the **Handset Jack** on the Left Side Cover.
(4) Connect the **Handset Cord.**
(5) Re-connect the **Telephone Line Cable**, the Power Cord and turn the **Power Switch** to the **ON (I)** position.

8.8. Installing the Dehumidifier Heater Kit

8.8.1. Contents

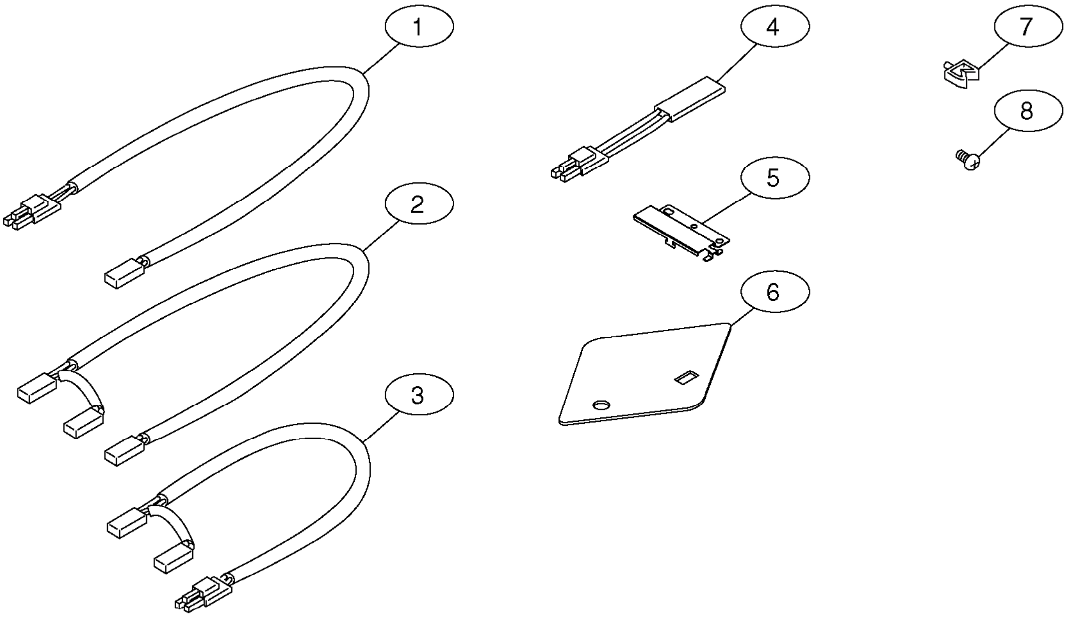
A. For Main Unit (DZTQ000032)

No.	Qty.	Description	Part No.	Remarks
1	1	RLB PC Board	DZEC102305	
2	1	RLB Bracket	DZJA001155	
3	1	PTC-AC Harness 1	DZFP001281	
4	1	PTC-AC Harness 2	DZFP001282	
5	1	PTC-AC Harness 3	DZFP001283	
6	1	PTC-AC Harness 4	DZFP001284	
7	1	Thermistor	DZFR000013	
8	2	PTC Heater	FFPCP0035	
9	2	Dehumidifier Bracket	DZJC000287	
10	1	Heater Bracket	FFPKD07791	
11	1	Protective Sheet	DZJM000511	
12	1	Heater Main Label	DZNK004136	
13	1	Switch Label	DZNK003898	
14	5	Clamp	DZJK000006	
15	6	Screw	XTB3+8J	
16	1	Screw	XTB3+4F	
-	1	Installation Instructions	DZSM000541	



B. For 2nd/3rd/4th Paper Feed Module (DZTQ000033)

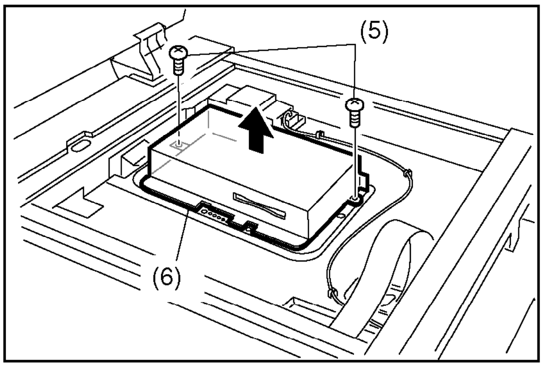
No.	Qty.	Description	Part No.	Remarks
1	3	PTC-AC Harness 6	DZFP001315	
2	1	PTC-AC Harness 7	DZFP001341	
3	2	PTC-AC Harness 8	DZFP001342	
4	3	PTC Heater	FFPCP0035	
5	3	Heater Bracket	FFPKD07791	
6	3	Protective Sheet	DZJM000511	
7	18	Clamp	DZJK000006	
8	3	Screw	XTB3+4F	
-	1	Installation Instructions	DZSM000541	



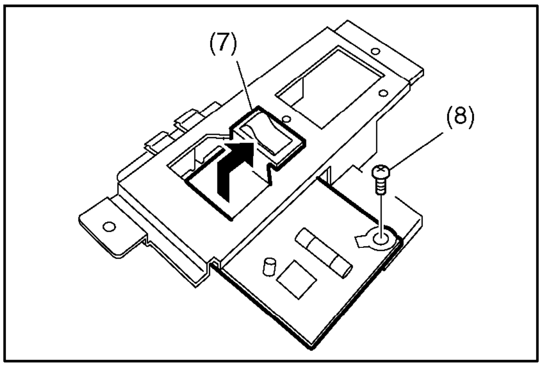
8.8.2. Installation

Note:

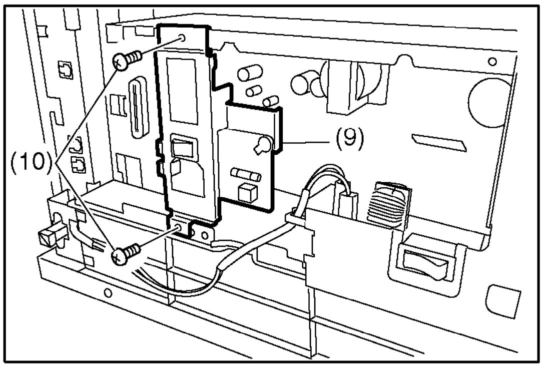
Turn the Power Switch to the OFF (O) position and unplug the AC Power Cord before beginning installation.



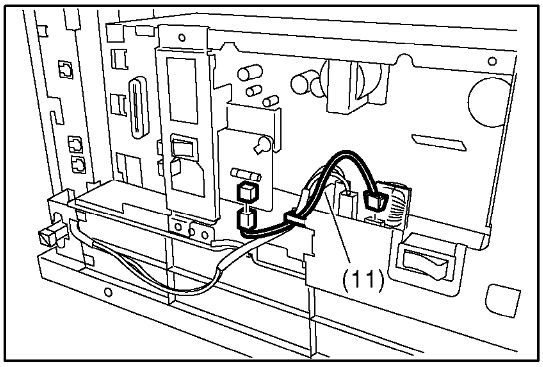
(1) Remove the Process Unit.
(Refer to ch 2.2.1 of the Service Manual)
(2) Remove the Front Cover, Inner Cover J, Left Side Cover and Rear Plate.
(Refer to ch 2.2.3. of the Service Manual)
(3) Remove the LSU, LVPS Plate Assembly, Fan, Upper and Lower Fan Bracket.
(Refer to ch 2.2.6. of the Service Manual)
(4) Remove the Glass L Assembly.
(Refer to ch 2.2.5. of the Service Manual)
(5) Remove 2 Screws.
(6) Remove the CCD Cover.



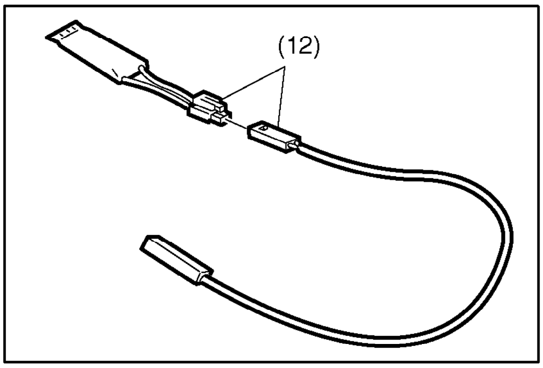
(7) Mount the RLB PC Board onto the RLB Bracket as illustrated.
(8) Secure the RLB PC Board with 1 Screw.



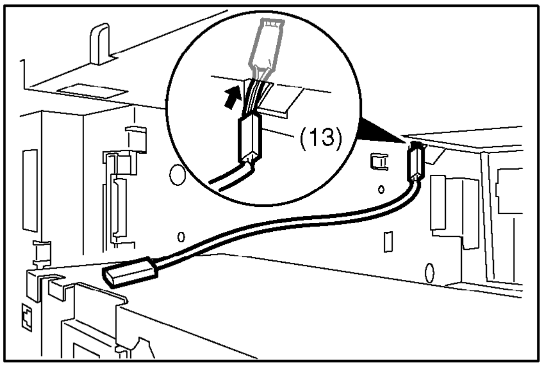
(9) Install the RLB PC Board Assembly.
(10) Secure the RLB PC Board Assembly with 2 Screws.



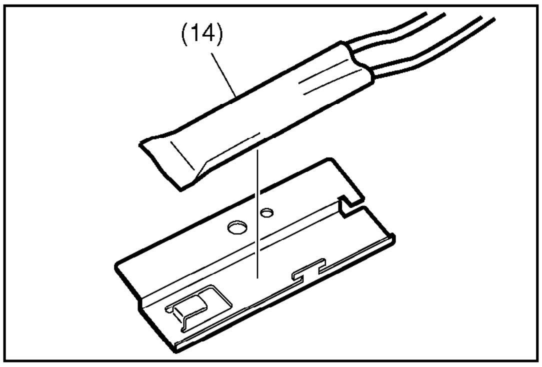
(11) Connect the PTC-AC Harness 1 to CN171 on the RLB PC Board and to CN736 on the HTC PC Board.



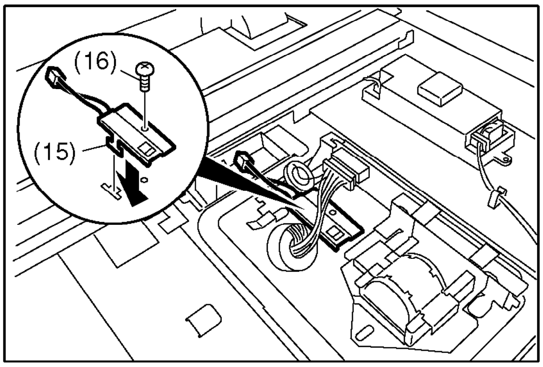
(12) Connect the PTC Heater to the PTC-AC Harness 3.



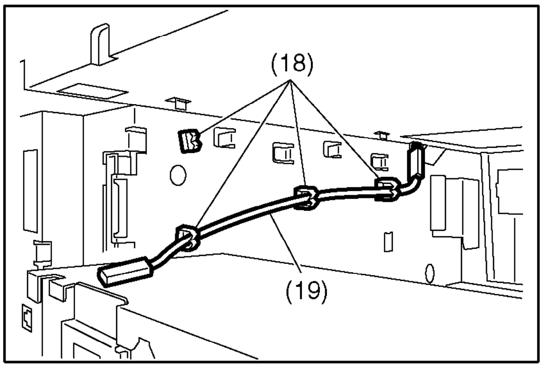
(13) Route the PTC Heater to the upper compornent of the frame through the access hole as illustrated.



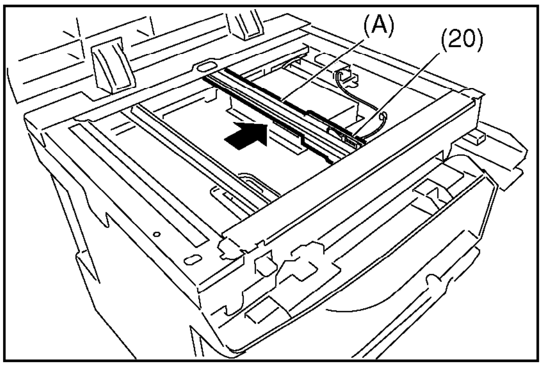
(14) Mount the PTC Heater onto the Dehumidifier Bracket.



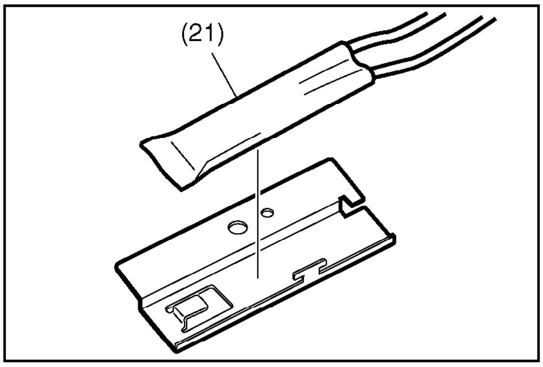
(15) Install the PTC Heater Assembly.
(16) Secure the PTC Heater Assembly with 1 Screw.
(17) Re-install the CCD Cover.



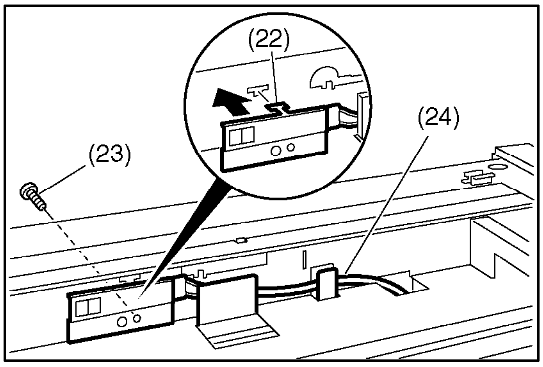
(18) Install 4 Clamps as illustrated.
(19) Insert the PTC-AC Harness 3 into 3 Clamps.



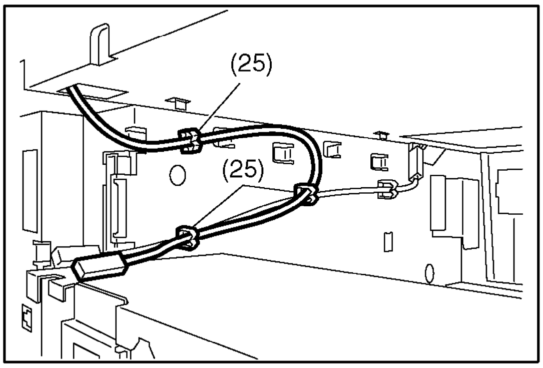
(20) Move the Lamp Base Assembly slowly toward the right, positioning the bracket near the center (Marked by (A) as illustrated).



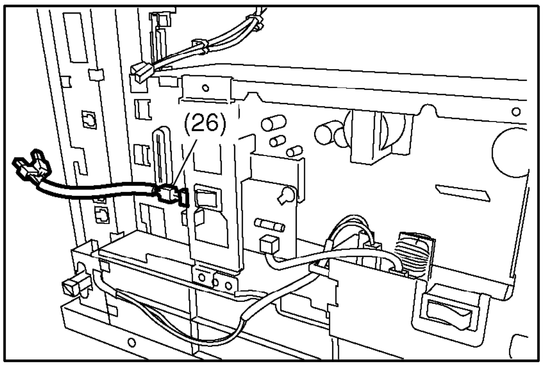
(21) Mount the Thermistor onto the Dehumidifier Bracket.



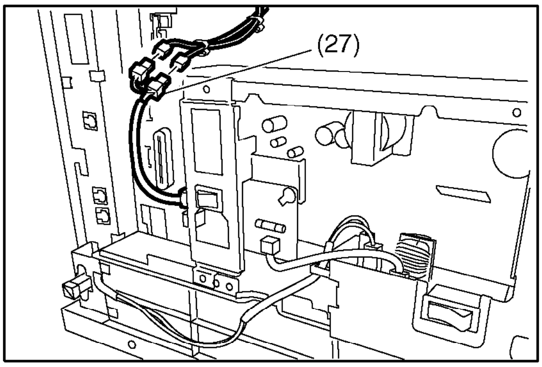
(22) Install the Thermistor to the Scanner Base Frame as illustrated.
(23) Secure the Thermistor with 1 Screw.
(24) Route the Harness of the Thermistor behind the plate and into the access hole on the Scanner Base Frame as illustrated.



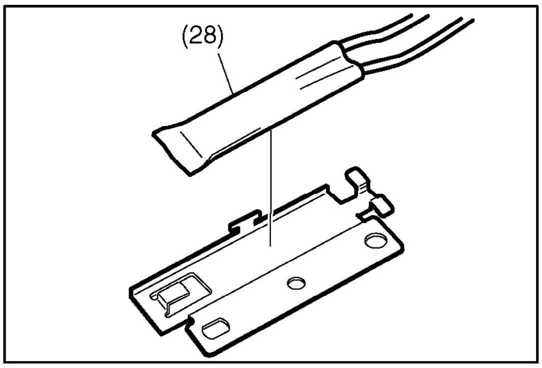
(25) Insert the Harness of the Thermistor into 3 Clamps as illustrated.



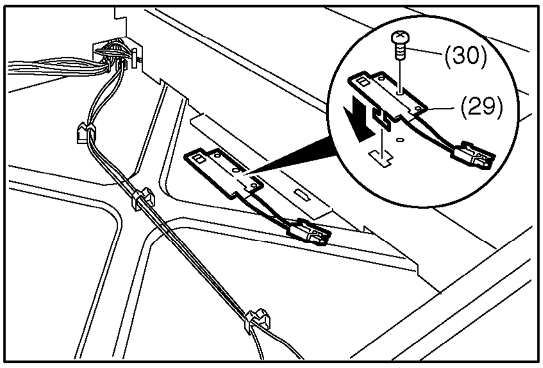
(26) Connect the PTC-AC Harness 2 to CN173 on the RLB PC Board.



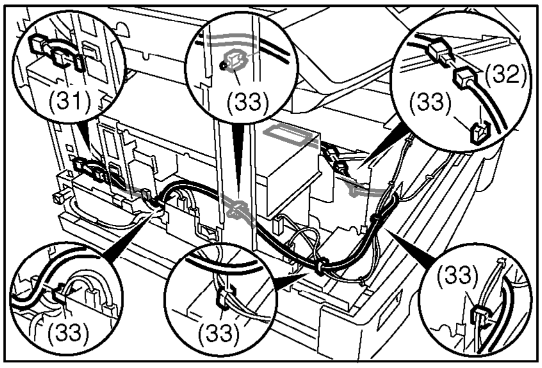
(27) Connect the Harness of the Thermistor and PTC-AC Harness 3 to PTC-AC Harness 2.



(28) Mount the PTC Heater onto the Heater Bracket.

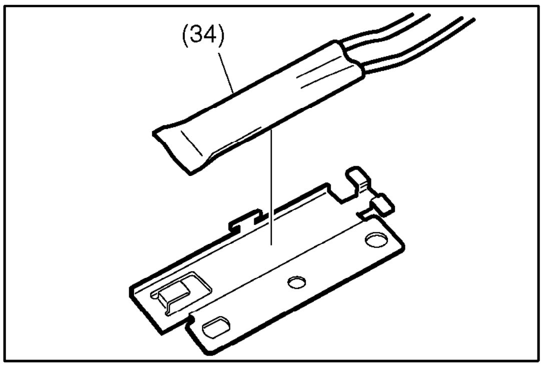


(29) Install the PTC Heater Assembly.
(30) Secure the PTC Heater Assembly with 1 Screw.

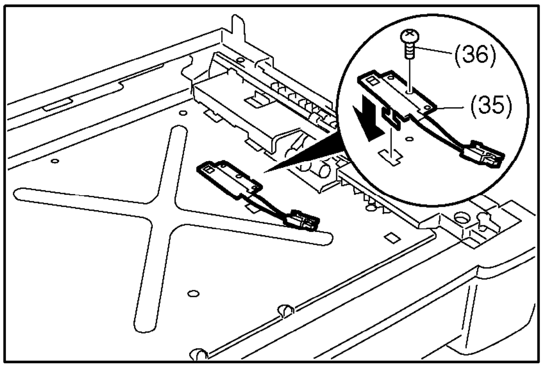


(31) Connect the PTC-AC Harness 4 to CN172 on the RLB PC Board.
(32) Connect the PTC-AC Harness 4 to PTC Heater Harness.
(33) Insert the PTC-AC Harness 4 into 5 Clamps.

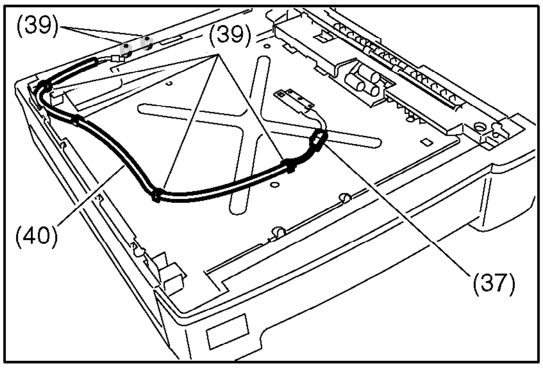
Note:
If Optional Paper Feed Modules are not installed, skip to step (52).



(34) Mount the PTC Heater onto the Heater Bracket.



(35) Install the PTC Heater Assembly.
(36) Secure the PTC Heater Assembly with 1 Screw.



(37) Connect the PTC Heater Harness to PTC-AC Harness 6.

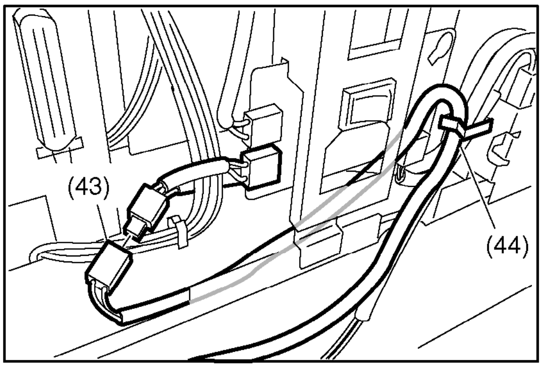
(38) Remove the CST Rear Cover.
(Refer to ch 8.5. of the Service Manual)

(39) Install 6 Clamps as illustrated.

(40) Insert the PTC-AC Harness 6 into 4 Clamps.

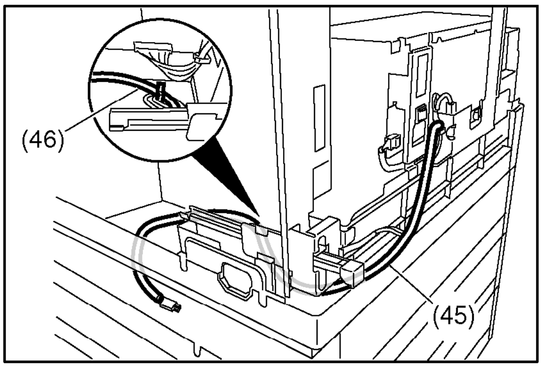
(41) The procedure for 3rd and 4th Paper Feed Modules is the same as steps (34)~(40).

(42) Main Unit Assembly, 2nd, 3rd and 4th Paper Feed Modules.
(Refer to ch 8.5. of the Service Manual)



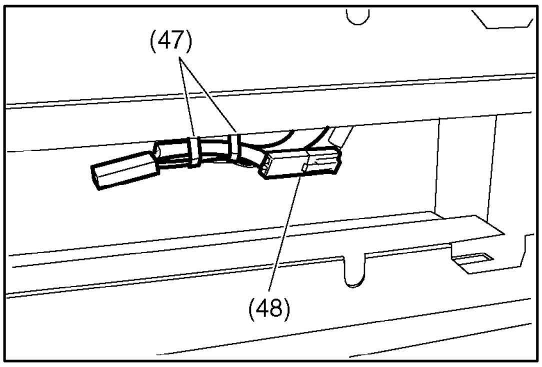
(43) Connect the PTC-AC Harness 7 to PTC-AC Harness 4.

(44) Insert the PTC-AC Harness 7 into the Clamp as illustrated.



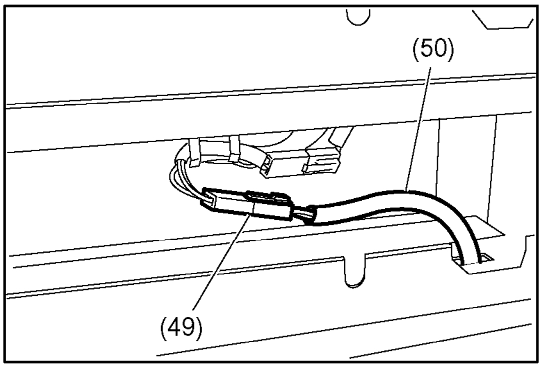
(45) Route the PTC-AC Harness 7 to the right side of the frame through the access hole as illustrated.

(46) Insert the PTC-AC Harness 7 into the Clamp as illustrated.



(47) Insert the PTC-AC Harness 7 into 2 Clamps as illustrated.

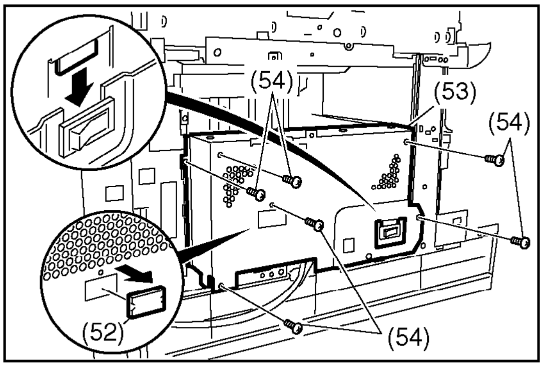
(48) Connect the PTC-AC Harness 7 to PTC-AC Harness 6.



(49) Connect the PTC-AC Harness 7 to PTC-AC Harness 8.

(50) Insert the other end of the harness through the bottom opening in the frame.

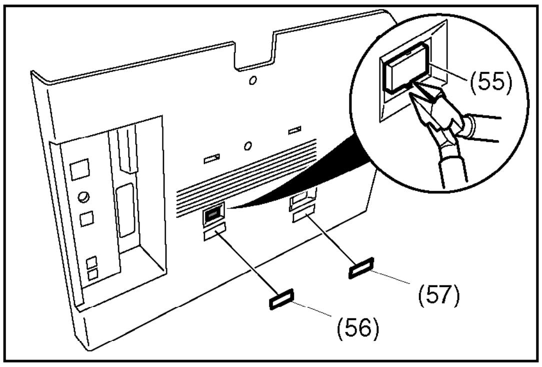
(51) The procedure for 3rd and 4th Paper Feed Modules is the same as steps (47)~(50).



(52) Break off the protective tab on the LVPS Plate Assembly.

(53) Re-install the LVPS Plate Assembly.

(54) Secure the LVPS Plate Assembly with 6 Screws.

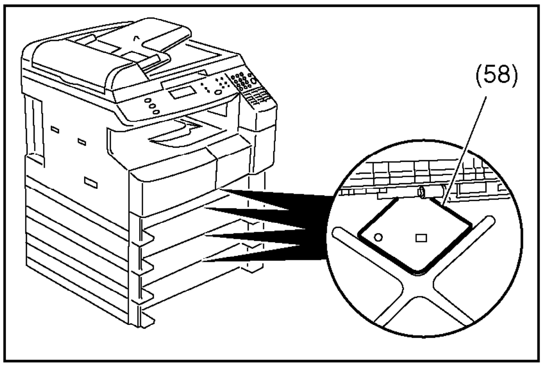


(55) Break off the protective tab on the Left Side Cover.

(56) Attach the Heater Label.

(57) Attach the Switch Label.

(58) Install the Protective Sheets.



8.9. Installing the Key Counter Cable Kit (DA-KH200)

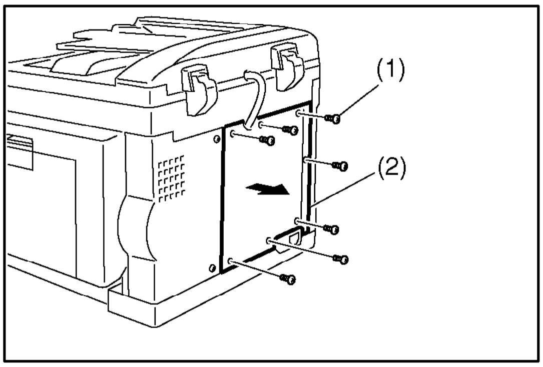
8.9.1. Contents

Note:
The Key Counter is sold separately.

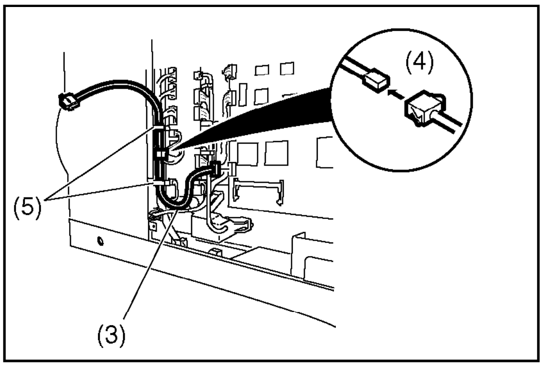
Qty.	Description	Part No.	Remarks
1	KEY Harness	DZFP000928	Longer
1	KC Harness	FFPWC0392	Shorter
1	KC Bracket	DZJA000786	Not used
2	Screw	DZPA000063	Not used
1	Installation Instructions	DZSM000279	For DP-2000/2500 /3000

8.9.2. Installation

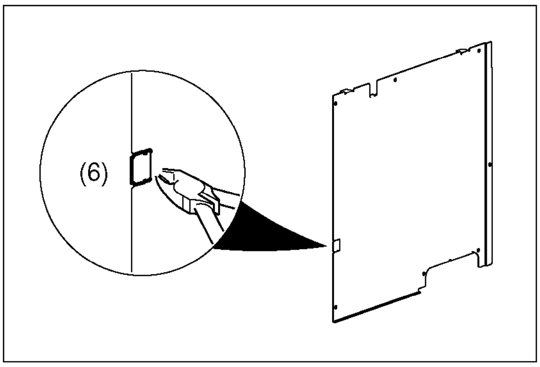
Note:
Turn the Power Switch to the OFF (O) position and unplug the AC Power Cord before beginning installation.



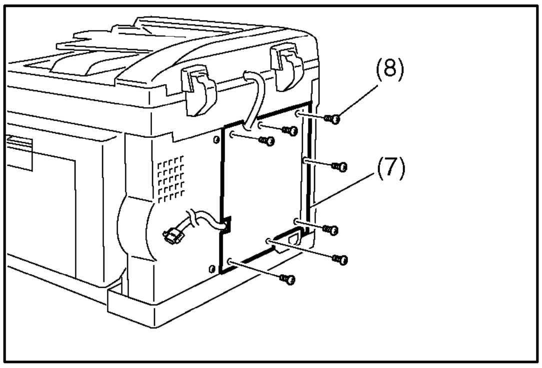
(1) Remove 7 Screws.
(2) Remove the Rear Plate.



(3) Connect the KEY Harness to CN102 on the SC PC Board.
(4) Connect the KEY Harness and KC Harness.
(5) Place the Harness into the 2 clamps.

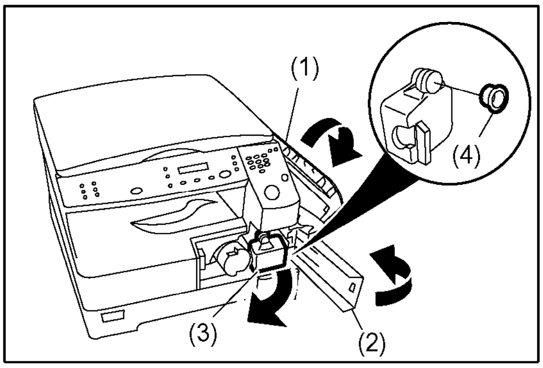


(6) Brake off the protective tab by cutting pliers.



(7) Re-install the Rear Plate as shown on the left.
(8) Secure the Rear Plate with 7 Screws.

8.10. Replacing the OPC Drum

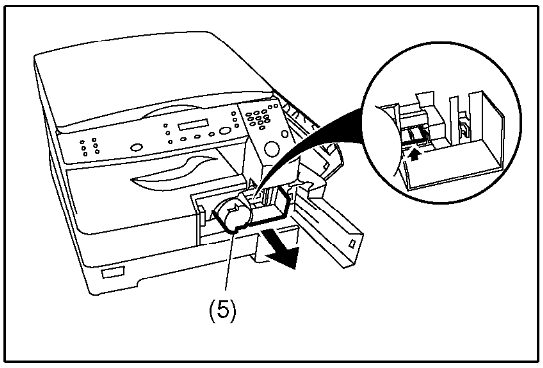


(1) Open the Right Cover.

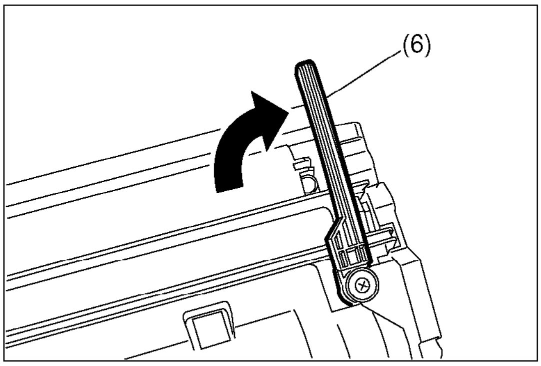
(2) Open the Front Door Cover.

(3) Remove the Toner Waste Container by slowly pulling it towrds the left as illustrated.

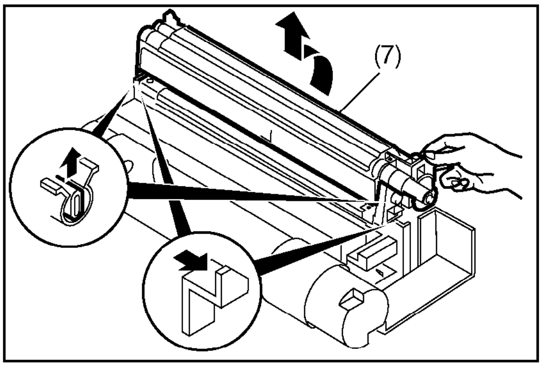
(4) Seal the Container with the enclosed cap and dispose of it properly.



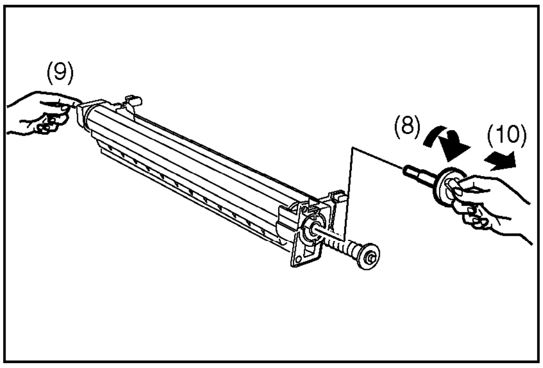
(5) Pull up the Lever and remove the Process Unit.



(6) Open the bottom Leg as illustrated.



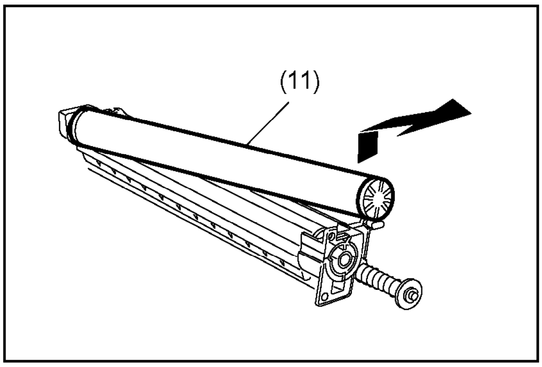
(7) Release 2 OPC Latches and turn the OPC Drum Assembly in the direction of the arrow to remove.



(8) Unlock the Front OPC Bushing Assembly by turning it clockwise.

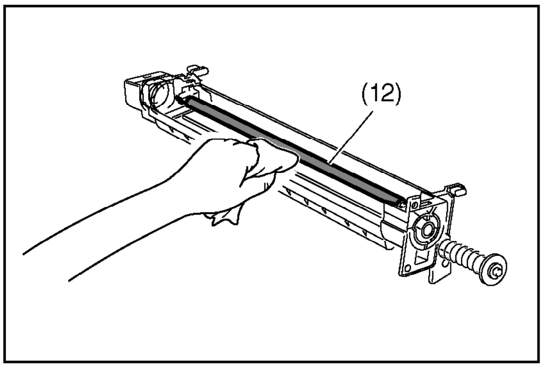
(9) Push the OPC Drum forward from the rear end as illustrated.

(10) Remove the Front OPC Bushing Assembly.

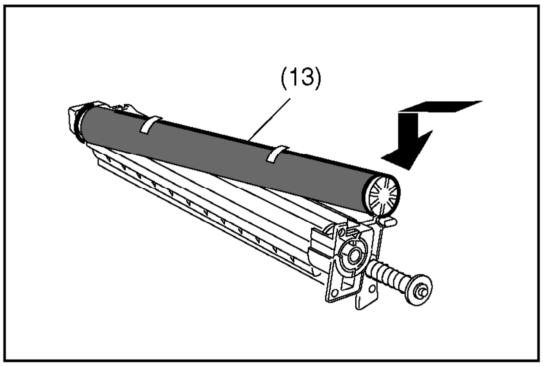


(11) Remove the OPC Drum as shown in the illustration, holding by the front end where the Front OPC Bushing Assembly was installed.

Note:
Do not touch the surface of the OPC Drum with bare hands when removing or re-installing it. Grease from fingerprints will affect copy quality. When installing a new OPC Drum, clean the Bias Charge Roller with a soft dry cloth.

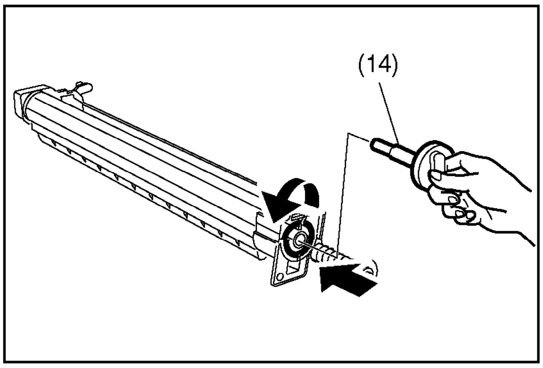


(12) Clean the Bias Charge Roller with the soft dry cloth that came with the new OPC Drum.

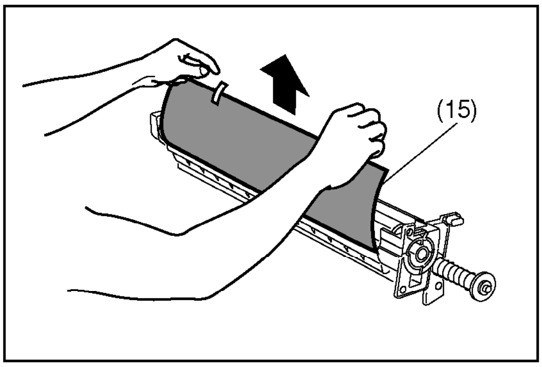


(13) Install the new OPC Drum in the direction of the arrow.

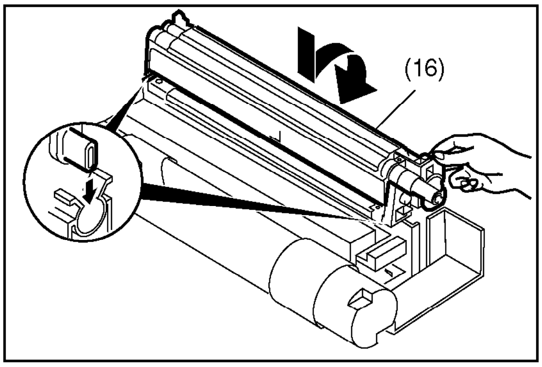
Note:
Leave the Protective Film in place.



(14) Reinstall the Front OPC Bushing Assembly and turn it counter-clockwise to lock it in place.



(15) Remove the Protective Film from the OPC Drum.



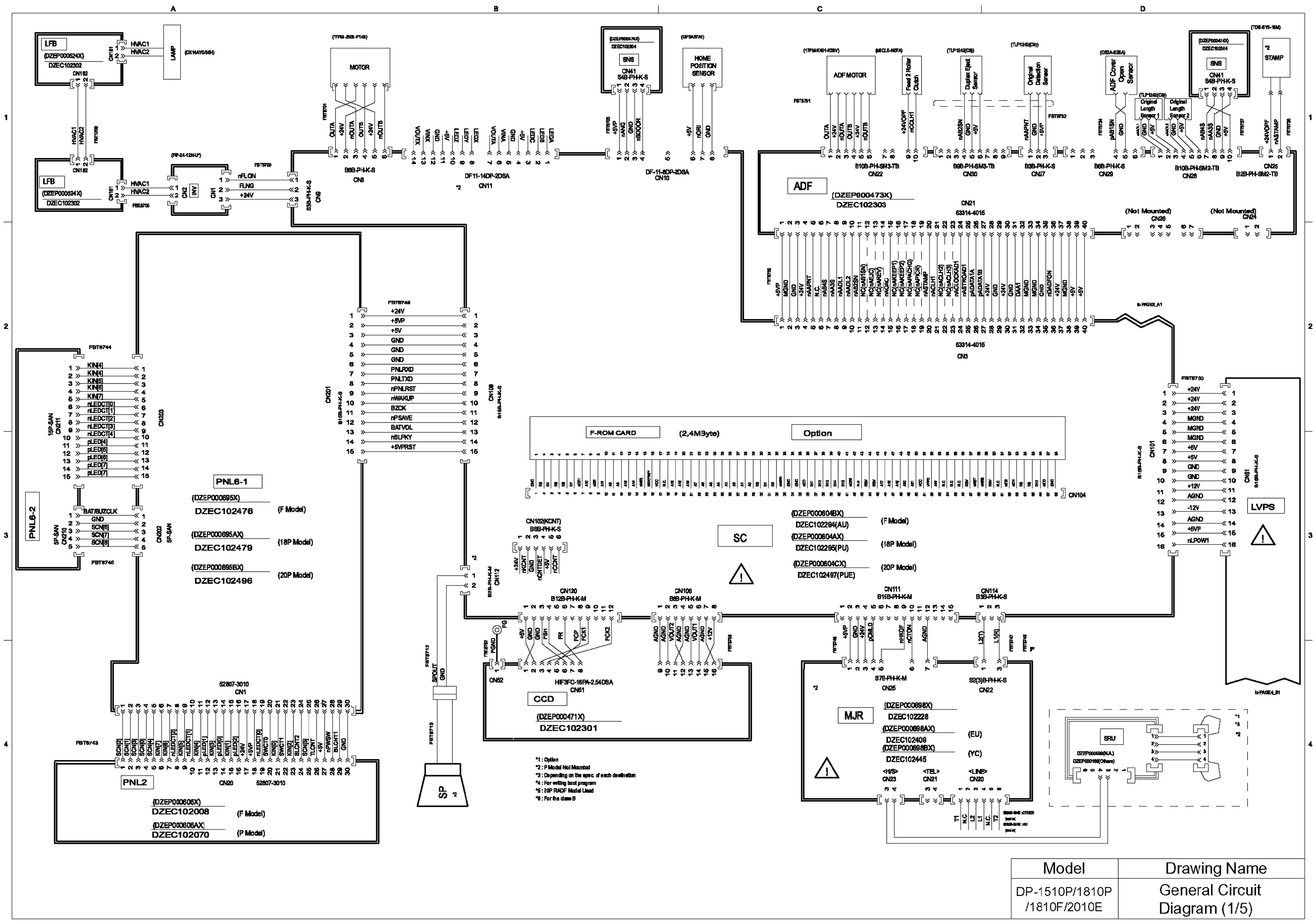
(16) Turn the OPC Drum Assembly in the direction of the arrow until it locks by the 2 OPC Latches.

(17) Reinstall the Process Unit, Toner Cartridge and the Toner Waste Container by following the instructions in Step 1 to 6 in reverse order.

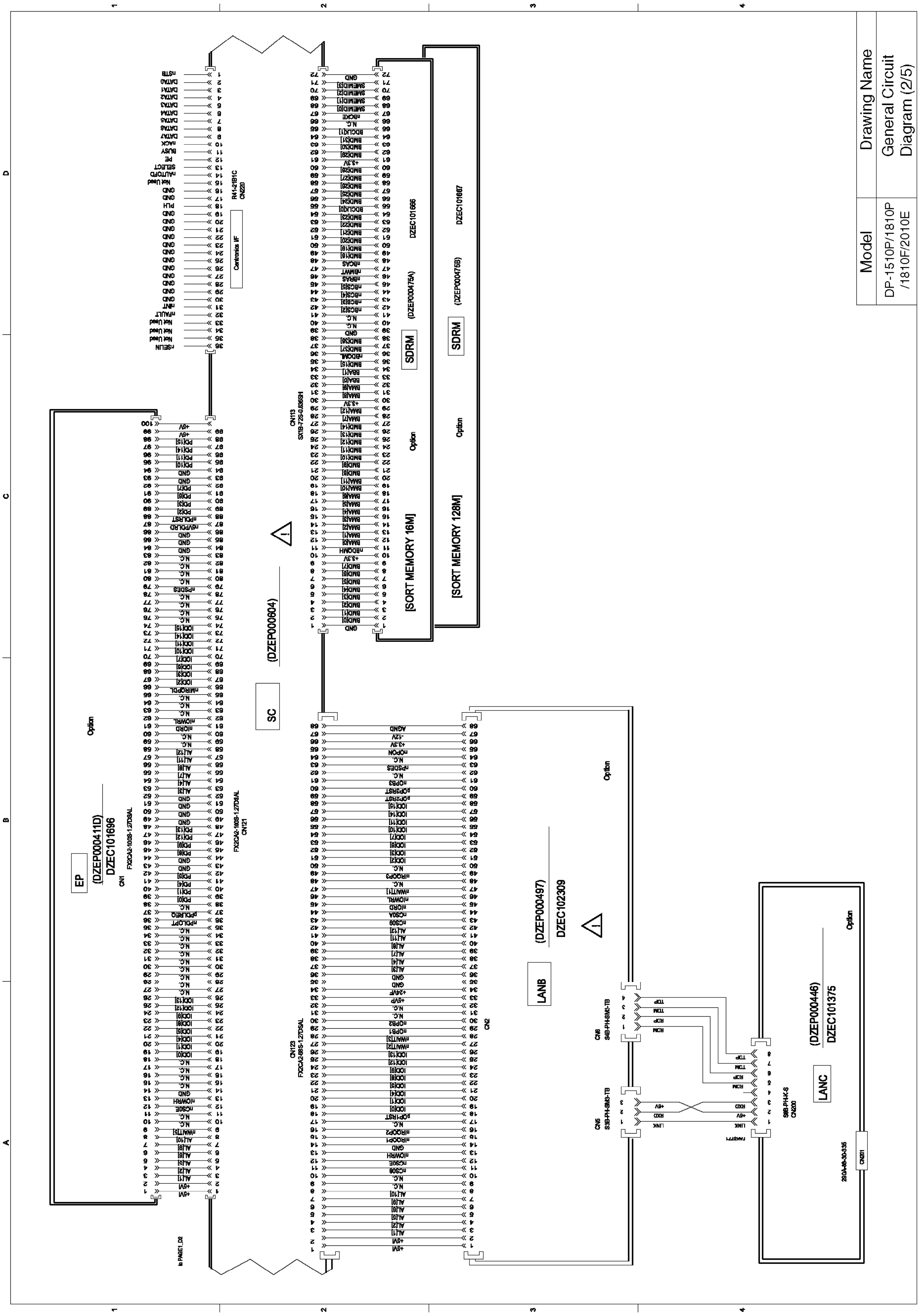
(18) Clear the Drum Count in the General Functions - 09 (Key Operator Mode) - 15 (Clear Drum Count).

9 Schematic Diagram

9.1. General Circuit Diagram System Circuit


A
B
C
D
1
2
3
4
LFB
(DZEP000524X)
DZEC102302
LAMP
INV
MOTOR
SNS
HOME POSITION SENSOR
ADF MOTOR
Feed 2 Roller Clutch
Duplex Eject Sensor
Original Detection Sensor
ADF Cover Open Sensor
Original Length Sensor 1
Original Length Sensor 2
STAMP
ADF
(DZEP000473X)
DZEC102303
(Not Mounted)
CN21
CN3
LVPS
CN101
CN61
F-ROM CARD
(2,4MByte)
Option
CN104
SC
(DZEP000604BX)
DZEC102294(AU)
(F Model)
(DZEP000604AX)
DZEC102295(PU)
(18P Model)
(DZEP000604CX)
DZEC102497(PUE)
(20P Model)
PNL6-1
(DZEP000695X)
DZEC102476
(F Model)
(DZEP000695AX)
DZEC102479
(18P Model)
(DZEP000695BX)
DZEC102496
(20P Model)
PNL6-2
PNL2
(DZEP000606X)
DZEC102008
(F Model)
(DZEP000606AX)
DZEC102070
(P Model)
CN201
CN108
SP
CCD
(DZEP000471X)
DZEC102301
MJR
(DZEP000698X)
DZEC102228
(DZEP000698AX)
DZEC102409
(EU)
(DZEP000698BX)
DZEC102445
(YC)
SRU
Model
DP-1510P/1810P
/1810F/2010E
Drawing Name
General Circuit
Diagram (1/5)

*1 : Option
*2 : P Model Not Mounted
*3 : Depending on the spec. of each destination
*4 : For writing boot program
*5 : 20P RADF Model Used
*6 : For the class B


Model
DP-1510P/1810P
/1810F/2010E
Drawing Name
General Circuit
Diagram (2/5)
EP
(DZEP000411D)
DZEC101696
CN1
Option
SC
(DZEP00604)
CN121
CN123
CN113
Centronics I/F
CN220
SDRM
(DZEP000475A)
DZEC101666
[SORT MEMORY 16M]
SDRM
(DZEP000475B)
DZEC101667
[SORT MEMORY 128M]
LANB
(DZEP000497)
DZEC102309
CN2
CN5
CN6
LANC
(DZEP000446)
DZEC101375
CN200
CN201
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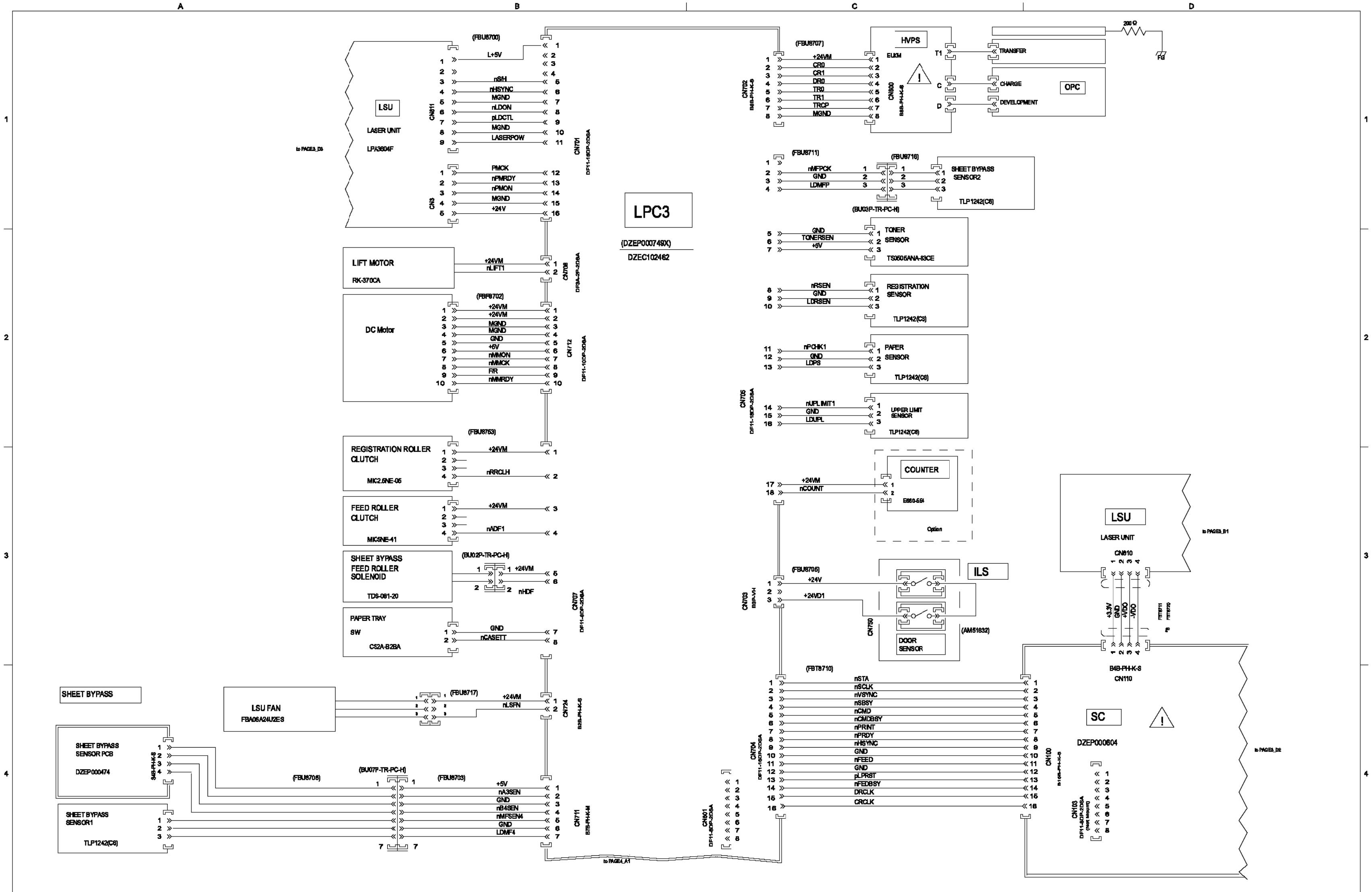
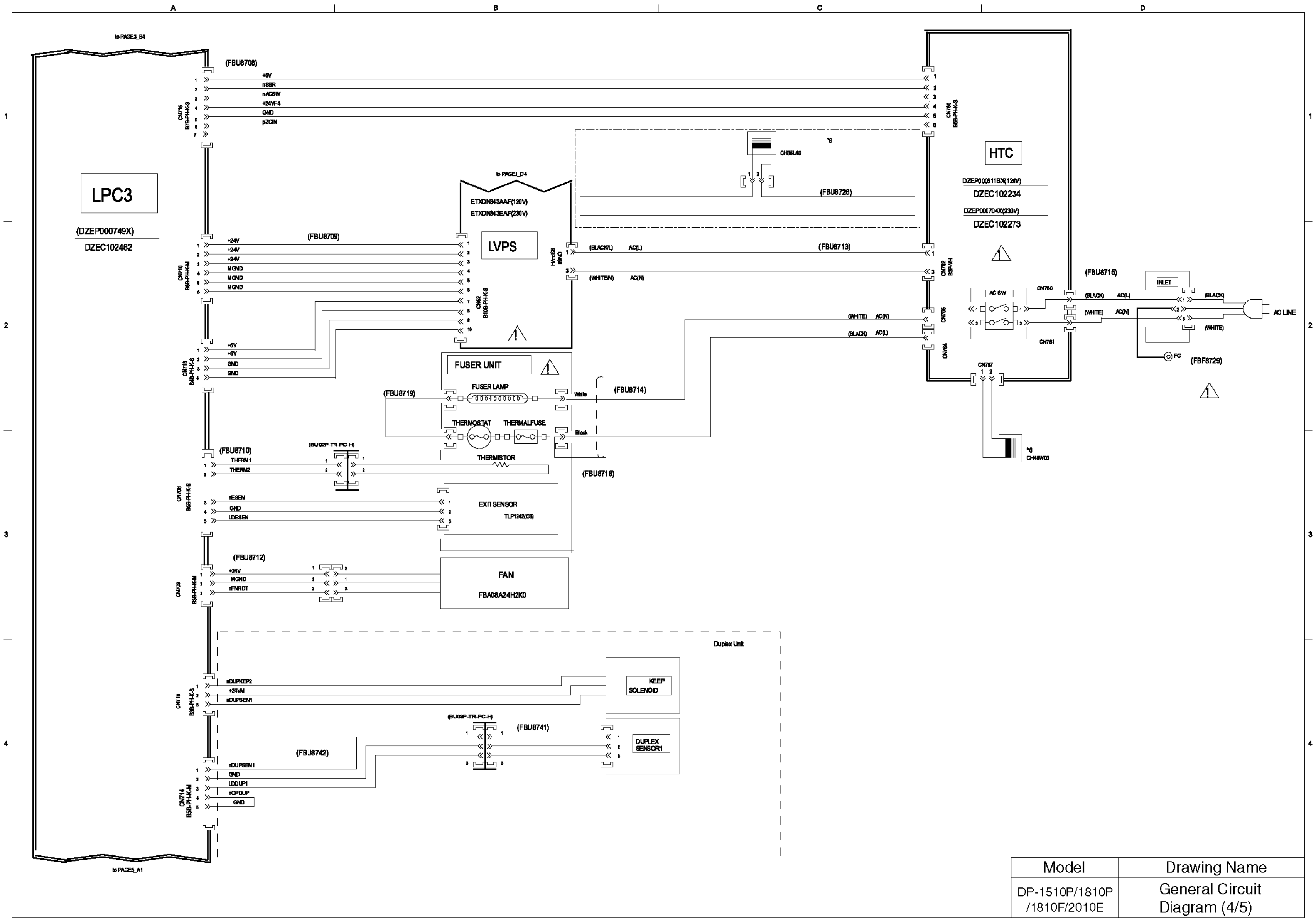
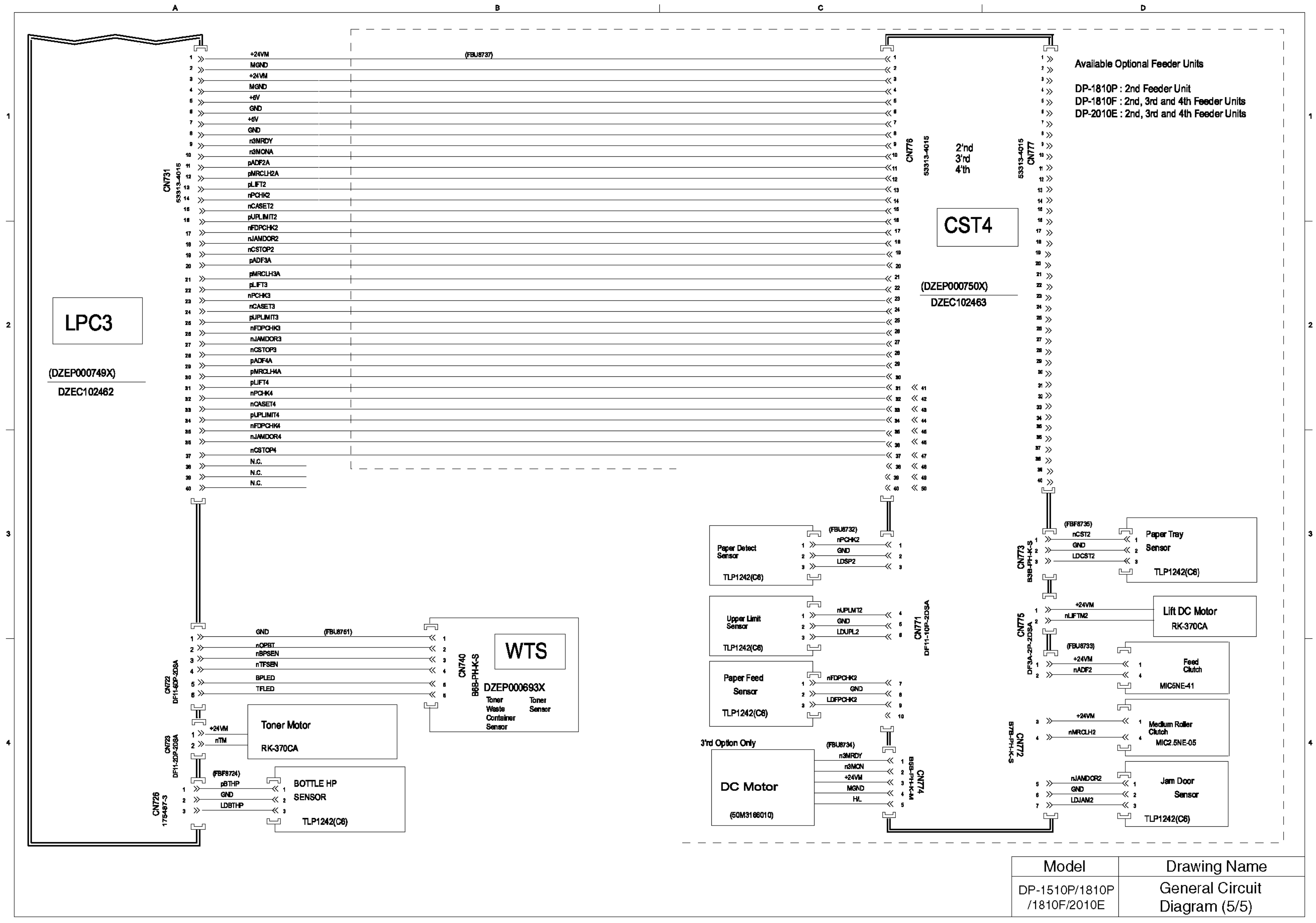
A
B
C
D
1
2
3
4


A
B
C
D
1
2
3
4
LSU
LASER UNIT
LPA3604F
to PAGE3_D3
CN611
CN3
(FBU8700)
L+5V
nS/H
nHSYNC
MGND
nLDON
pLDCTL
MGND
LASERPOW
PMCK
nPMRDY
nPMON
MGND
+24V
CN701
DF11-16DP-2DSA
LPC3
(DZEP000749X)
DZEC102462
LIFT MOTOR
RK-370CA
+24VM
nLIFT1
CN708
DF3A-2P-2DSA
DC Motor
(FBF8702)
+24VM
+24VM
MGND
MGND
GND
+5V
nMMON
nMMCK
F/R
nMMRDY
CN712
DF11-10DP-2DSA
REGISTRATION ROLLER
CLUTCH
MK2.5NE-05
(FBU8753)
+24VM
nRRCLH
FEED ROLLER
CLUTCH
MK5NE-41
+24VM
nADF1
SHEET BYPASS
FEED ROLLER
SOLENOID
TDS-081-20
(BU02P-TR-PC-H)
+24VM
nHDF
PAPER TRAY
SW
CS2A-B2BA
GND
nCASETT
CN707
DF11-8DP-2DSA
SHEET BYPASS
LSU FAN
FBA06A24U2ES
(FBU8717)
+24VM
nLSFN
CN724
B2B-PH-K-S
SHEET BYPASS
SENSOR PCB
DZEP000474
S4B-PH-K-S
SHEET BYPASS
SENSOR1
TLP1242(C8)
(FBU8706)
(BU07P-TR-PC-H)
(FBU8703)
+5V
nA3SEN
GND
nB4SEN
nMFSEN4
GND
LDMF4
CN711
B7B-PH-K-M
to PAGE4_A1
CN601
DF11-8DP-2DSA
(FBU8707)
+24VM
CR0
CR1
DR0
TR0
TR1
TRCP
MGND
CN702
B8B-PH-K-S
CN800
B8B-PH-K-S
HVPS
EUKM
T1
C
D
TRANSFER
CHARGE
DEVELOPMENT
OPC
200 Ω
FG
(FBU8711)
nMFPCK
GND
LDMFP
(FBU8716)
(BU03P-TR-PC-H)
SHEET BYPASS
SENSOR2
TLP1242(C8)
GND
TONERSEN
+5V
TONER
SENSOR
TS0505ANA-83CE
nRSEN
GND
LDRSEN
REGISTRATION
SENSOR
TLP1242(C8)
nPCHK1
GND
LDPS
PAPER
SENSOR
TLP1242(C8)
nUPLIMIT1
GND
LDUPL
UPPER LIMIT
SENSOR
TLP1242(C8)
CN705
DF11-18DP-2DSA
+24VM
nCOUNT
COUNTER
E660-55I
Option
(FBU8705)
+24V
+24VD1
CN703
B3P-VH
CN750
ILS
(AM51632)
DOOR
SENSOR
LSU
LASER UNIT
CN610
to PAGE3_B1
+3.3V
GND
+VDO
-VDO
FBT8711
FBT8720
B4B-PH-K-S
CN110
(FBT8710)
nSTA
nSCLK
nVSYNC
nSBSY
nCMD
nCMDBSY
nPRINT
nPRDY
nHSYNC
GND
nFEED
GND
pLPRST
nFEDBSY
DRCLK
CRCLK
CN704
DF11-16DP-2DSA
CN100
B16B-PH-K-S
SC
DZEP000604
CN103
DF11-8DP-2DSA
(Not Mount)
to PAGE3_D2

Model	Drawing Name
DP-1510P/1810P /1810F/2010E	General Circuit Diagram (3/5)

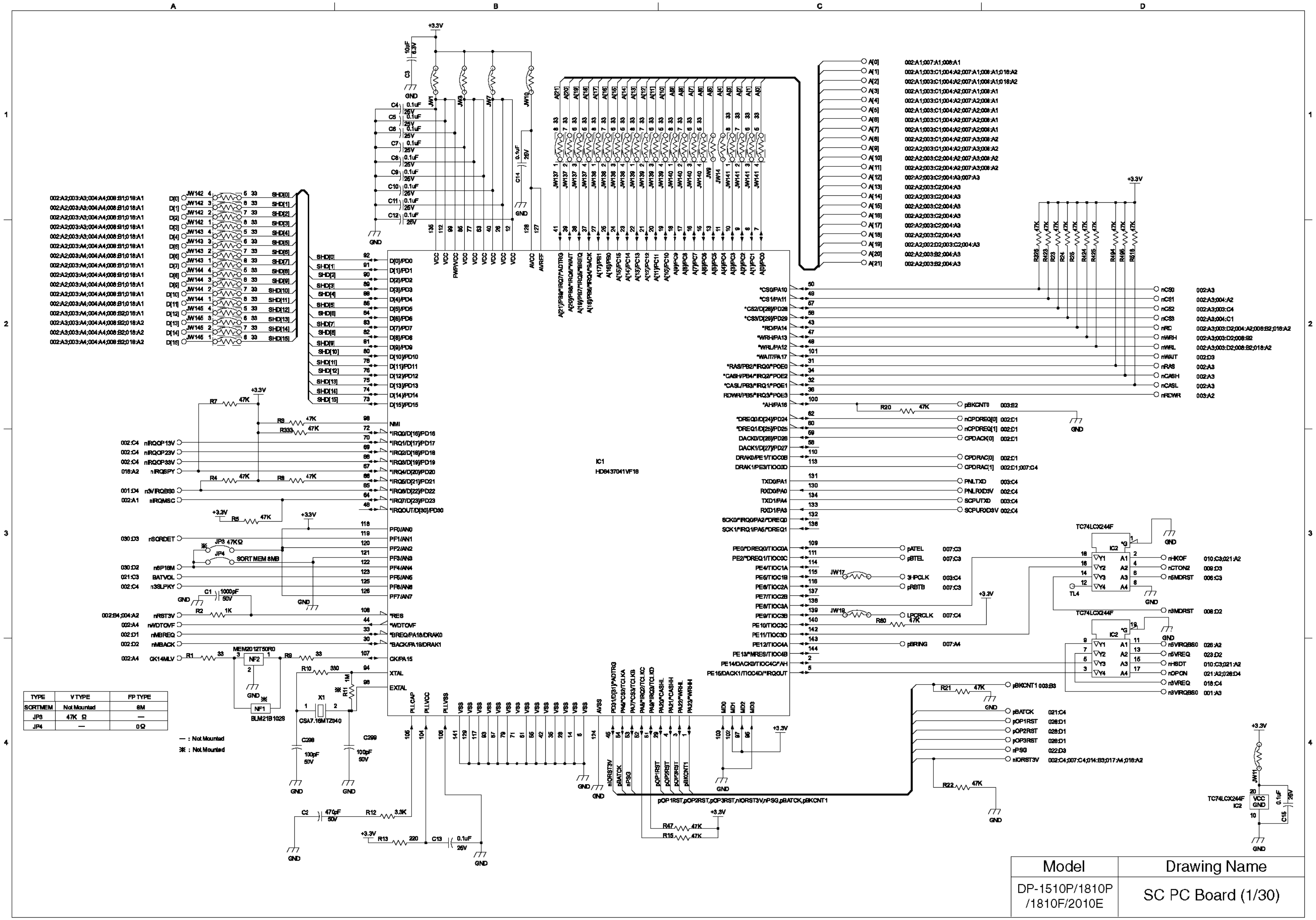

A
B
C
D
1
2
3
4
to PAGE3_B4
LPC3
(DZEP000749X)
DZEC102462
(FBU8708)
CN716
B7B-PH-K-S
+5V
nSSR
nACSW
+24VF4
GND
pZCIN
CN766
B6B-PH-K-S
HTC
DZEP000611BX(120V)
DZEC102234
DZEP000704X(230V)
DZEC102273
*6
CH35L40
(FBU8726)
to PAGE1_D4
ETXDN343AAF(120V)
ETXDN343EAF(230V)
LVPS
(FBU8709)
CN710
B6B-PH-K-M
+24V
+24V
+24V
MGND
MGND
MGND
CN62
B10B-PH-K-S
CN60
B3P-VH
(BLACK/L)
AC(L)
(WHITE/N)
AC(N)
(FBU8713)
CN762
B3P-VH
(FBU8715)
CN760
AC SW
(BLACK)
AC(L)
(WHITE)
AC(N)
CN761
INLET
(BLACK)
(WHITE)
AC LINE
FG
(FBF8729)
CN765
(WHITE)
AC(N)
(BLACK)
AC(L)
CN764
CN757
*6
CH45W03
CN715
B4B-PH-K-S
+5V
+5V
GND
GND
FUSER UNIT
FUSER LAMP
(FBU8719)
White
(FBU8714)
THERMOSTAT
THERMALFUSE
Black
THERMISTOR
(FBU8718)
(FBU8710)
(BU02P-TR-PC-H)
THERM1
THERM2
CN708
B5B-PH-K-S
nESEN
GND
LDESEN
EXIT SENSOR
TLP1242(C8)
(FBU8712)
CN709
B3B-PH-K-M
+24V
MGND
nFNRDT
FAN
FBA08A24H2K0
Duplex Unit
CN718
B3B-PH-K-S
nDUPKEP2
+24VM
nDUPSEN1
KEEP
SOLENOID
(BU03P-TR-PC-H)
(FBU8741)
(FBU8742)
DUPLEX
SENSOR1
CN714
B5B-PH-K-M
nDUPSEN1
GND
LDDUP1
nOPDUP
GND
to PAGE5_A1

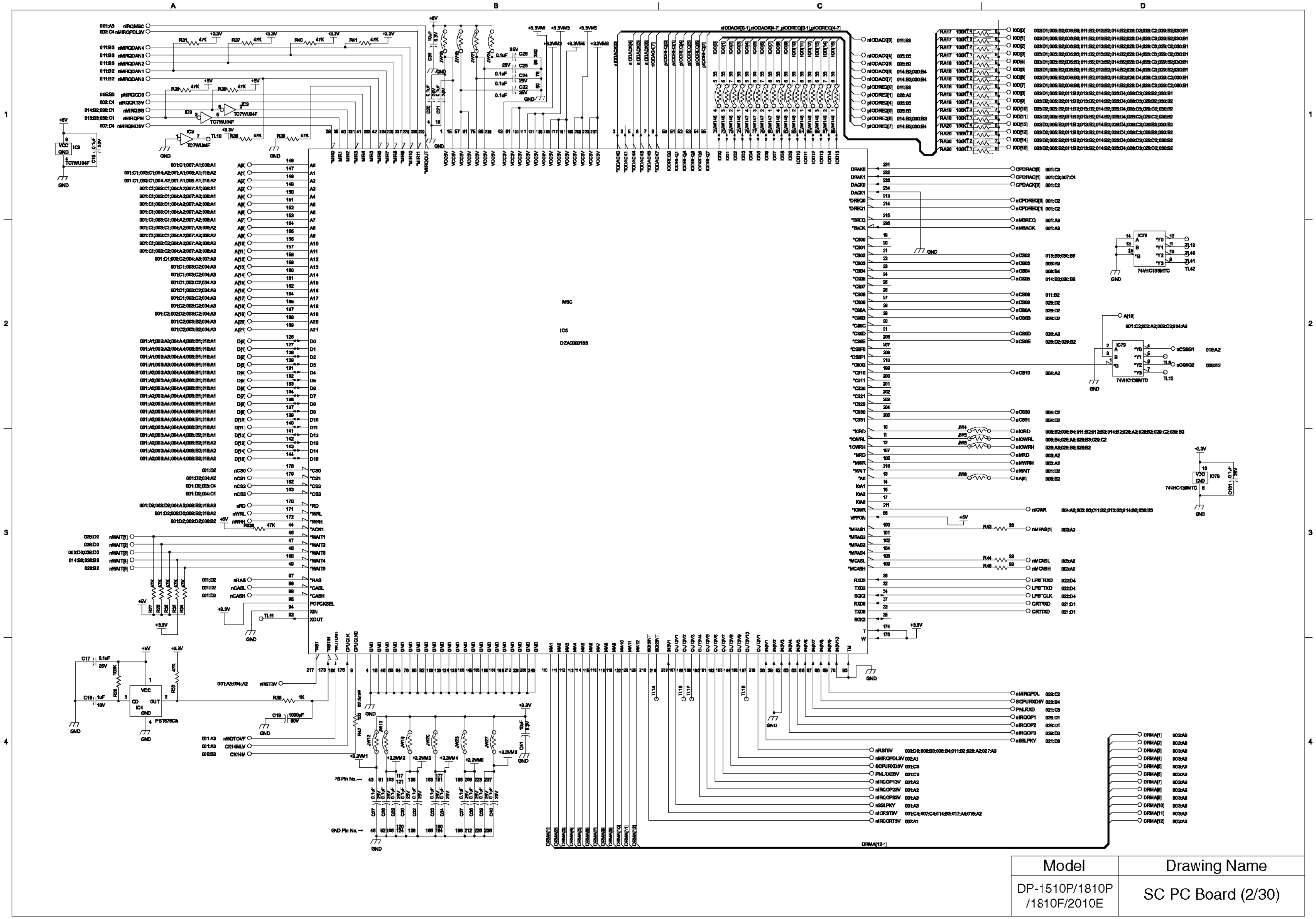
Model	Drawing Name
DP-1510P/1810P /1810F/2010E	General Circuit Diagram (4/5)


A
B
C
D
1
2
3
4
LPC3
(DZEP000749X)
DZEC102462
CN731
53313-4015
+24VM
MGND
+24VM
MGND
+5V
GND
+5V
GND
n3MRDY
n3MONA
pADF2A
pMRCLH2A
pLIFT2
nPCHK2
nCASET2
pUPLIMIT2
nFDPCHK2
nJAMDOR2
nCSTOP2
pADF3A
pMRCLH3A
pLIFT3
nPCHK3
nCASET3
pUPLIMIT3
nFDPCHK3
nJAMDOR3
nCSTOP3
pADF4A
pMRCLH4A
pLIFT4
nPCHK4
nCASET4
pUPLIMIT4
nFDPCHK4
nJAMDOR4
nCSTOP4
N.C.
N.C.
N.C.
(FBU8737)
CST4
(DZEP000750X)
DZEC102463
CN776
53313-4015
CN777
53313-4015
2'nd
3'rd
4'th
Available Optional Feeder Units
DP-1810P : 2nd Feeder Unit
DP-1810F : 2nd, 3rd and 4th Feeder Units
DP-2010E : 2nd, 3rd and 4th Feeder Units
CN722
DF11-6DP-2DSA
GND
nOPBT
nBPSEN
nTFSEN
BPLED
TFLED
(FBU8761)
CN740
B6B-PH-K-S
WTS
DZEP000693X
Toner Waste Container Sensor
Toner Sensor
CN723
DF11-2DP-2DSA
+24VM
nTM
Toner Motor
RK-370CA
CN726
175487-3
(FBF8724)
pBTHP
GND
LDBTHP
BOTTLE HP SENSOR
TLP1242(C6)
(FBU8732)
nPCHK2
GND
LDSP2
Paper Detect Sensor
TLP1242(C6)
CN771
DF11-10P-2DSA
nUPLMT2
GND
LDUPL2
Upper Limit Sensor
TLP1242(C6)
nFDPCHK2
GND
LDFPCHK2
Paper Feed Sensor
TLP1242(C6)
3'rd Option Only
(FBU8734)
n3MRDY
n3MON
+24VM
MGND
H/L
CN774
B5B-PH-K-M
DC Motor
(60M3166010)
(FBF8735)
CN773
B3B-PH-K-S
nCST2
GND
LDCST2
Paper Tray Sensor
TLP1242(C6)
CN775
DF3A-2P-2DSA
+24VM
nLIFTM2
Lift DC Motor
RK-370CA
(FBU8733)
+24VM
nADF2
Feed Clutch
MIC5NE-41
CN772
B7B-PH-K-S
+24VM
nMRCLH2
Medium Roller Clutch
MIC2.5NE-05
nJAMDOR2
GND
LDJAM2
Jam Door Sensor
TLP1242(C6)

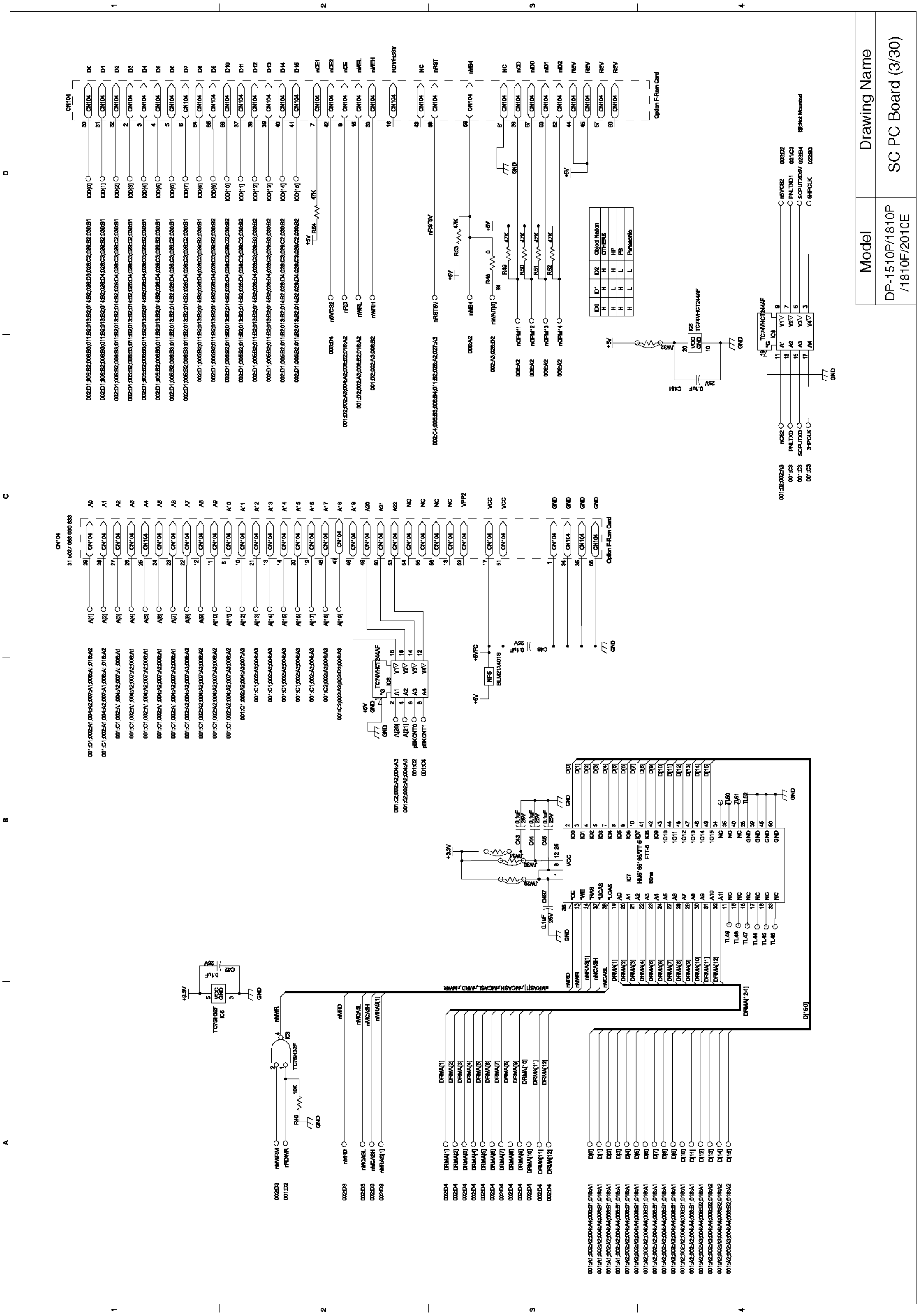
Model	Drawing Name
DP-1510P/1810P /1810F/2010E	General Circuit Diagram (5/5)

9.2. SC PC Board

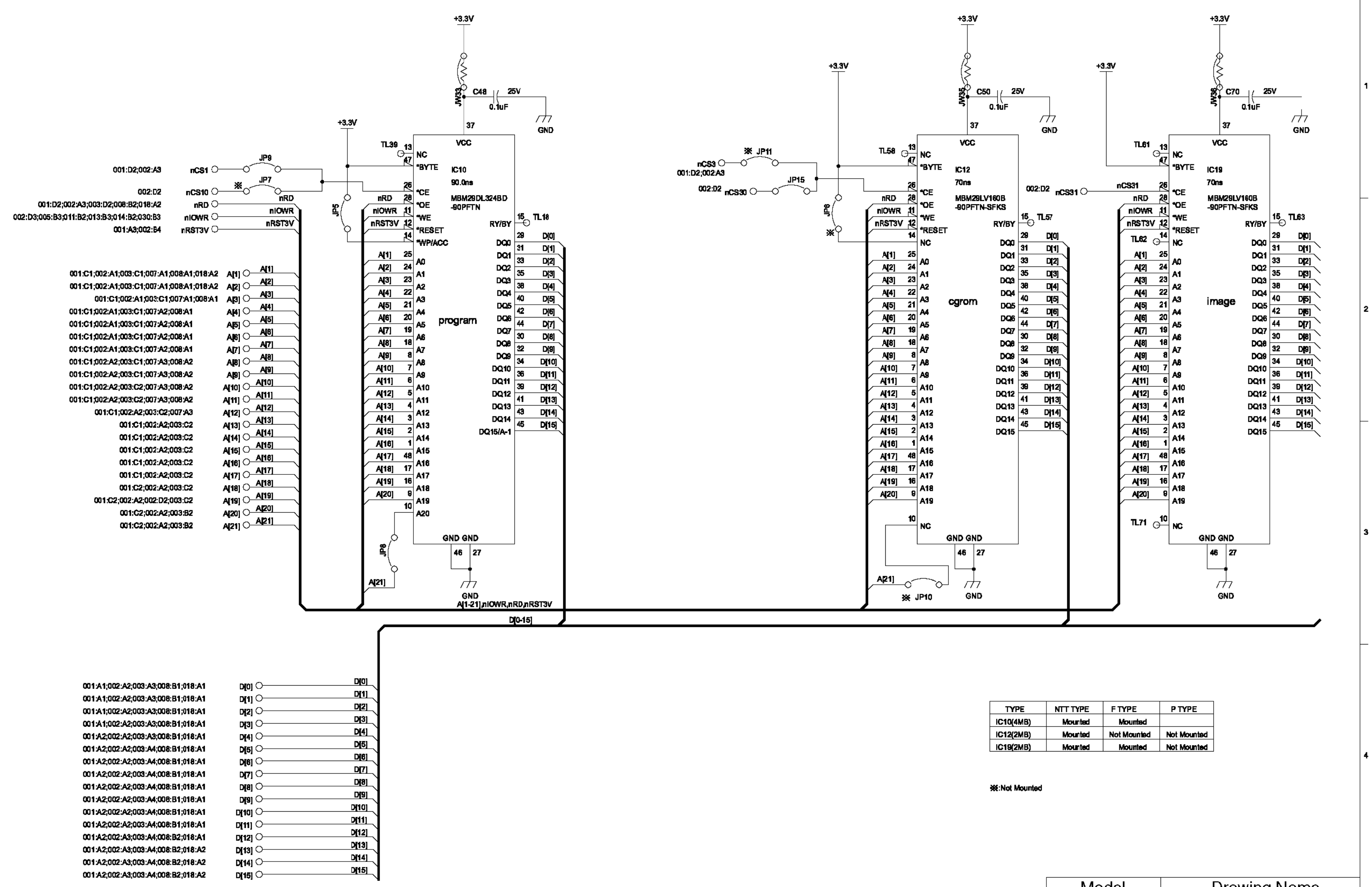

A
B
C
D
1
2
3
4
IC1
HD6437041VF16
+3.3V
GND
C3 10uF 6.3V
JW1
JW3
JW7
JW10
C4 0.1uF 25V
C5 0.1uF 25V
C6 0.1uF 25V
C7 0.1uF 25V
C8 0.1uF 25V
C9 0.1uF 25V
C10 0.1uF 25V
C11 0.1uF 25V
C12 0.1uF 25V
C14 0.1uF 25V
VCC
FWP/VCC
AVCC
AVREF
A[21]/PB9/*IRQ7/*ADTRG
A[20]/PB8/*IRQ6/*WAIT
A[19]/PB7/*IRQ5/*BREQ
A[18]/PB6/*IRQ4/*BACK
A[17]/PB1
A[16]/PB0
A[15]/PC15
A[14]/PC14
A[13]/PC13
A[12]/PC12
A[11]/PC11
A[10]/PC10
A[9]/PC9
A[8]/PC8
A[7]/PC7
A[6]/PC6
A[5]/PC5
A[4]/PC4
A[3]/PC3
A[2]/PC2
A[1]/PC1
A[0]/PC0
JW137
JW138
JW139
JW140
JW9
JW14
JW141
A[0] 002:A1;007:A1;008:A1
A[1] 002:A1;003:C1;004:A2;007:A1;008:A1;018:A2
A[2] 002:A1;003:C1;004:A2;007:A1;008:A1;018:A2
A[3] 002:A1;003:C1;004:A2;007:A1;008:A1
A[4] 002:A1;003:C1;004:A2;007:A2;008:A1
A[5] 002:A1;003:C1;004:A2;007:A2;008:A1
A[6] 002:A1;003:C1;004:A2;007:A2;008:A1
A[7] 002:A1;003:C1;004:A2;007:A2;008:A1
A[8] 002:A2;003:C1;004:A2;007:A3;008:A2
A[9] 002:A2;003:C1;004:A2;007:A3;008:A2
A[10] 002:A2;003:C2;004:A2;007:A3;008:A2
A[11] 002:A2;003:C2;004:A2;007:A3;008:A2
A[12] 002:A2;003:C2;004:A3;007:A3
A[13] 002:A2;003:C2;004:A3
A[14] 002:A2;003:C2;004:A3
A[15] 002:A2;003:C2;004:A3
A[16] 002:A2;003:C2;004:A3
A[17] 002:A2;003:C2;004:A3
A[18] 002:A2;003:C2;004:A3
A[19] 002:A2;002:D2;003:C2;004:A3
A[20] 002:A2;003:B2;004:A3
A[21] 002:A2;003:B2;004:A3
R326 R423 R23 R24 R25 R424 R425 R494 R495 R518 47K
*CS0/PA10 nCS0 002:A3
*CS1/PA11 nCS1 002:A3;004:A2
*CS2/D[28]/PD28 nCS2 002:A3;003:C4
*CS3/D[29]/PD29 nCS3 002:A3;004:C1
*RD/PA14 nRD 002:A3;003:D2;004:A2;008:B2;018:A2
*WRH/PA13 nWRH 002:A3;003:D2;008:B2
*WRL/PA12 nWRL 002:A3;003:D2;008:B2;018:A2
*WAIT/PA17 nWAIT 002:D3
*RAS/PB2/*IRQ0/*POE0 nRAS 002:A3
*CASH/PB4/*IRQ2/*POE2 nCASH 002:A3
*CASL/PB3/*IRQ1/*POE1 nCASL 002:A3
RDWR/PB5/*IRQ3/*POE3 nRDWR 003:A2
*AH/PA16 R20 47K pBKCNT0 003:B2
*DREQ0/D[24]/PD24 nCPDREQ[0] 002:D1
*DREQ1/D[25]/PD25 nCPDREQ[1] 002:D1
DACK0/D[26]/PD26 CPDACK[0] 002:D1
DACK1/D[27]/PD27
DRAK0/PE1/TIOC0B CPDRAC[0] 002:D1
DRAK1/PE3/TIOC0D CPDRAC[1] 002:D1;007:C4
TXD0/PA1 PNLTXD 003:C4
RXD0/PA0 PNLRXD3V 002:C4
TXD1/PA4 SCPUTXD 003:C4
RXD1/PA3 SCPURXD3V 002:C4
SCK0/*IRQ0/PA2/*DREQ0
SCK1/*IRQ1/PA5/*DREQ1
PE0/*DREQ0/TIOC0A pATEL 007:C3
PE2/*DREQ1/TIOC0C pBTEL 007:C3
PE4/TIOC1A
PE5/TIOC1B JW17 3HPCLK 003:C4
PE6/TIOC2A pRBTB 007:C3
PE7/TIOC2B
PE8/TIOC3A
PE9/TIOC3B JW19 LPCRCLK 007:C4
PE10/TIOC3C R60 47K
PE11/TIOC3D
PE12/TIOC4A pBRING 007:A4
PE13/*MRES/TIOC4B
PE14/DACK0/TIOC4C/*AH
PE15/DACK1/TIOC4D/*IRQOUT
TC74LCX244F
IC2
*G
TL4
nHKOF 010:C3;021:A2
nCTON2 009:D3
n5MDRST 006:C3
n3MDRST 006:D2
n5VIRQBS0 026:A2
n5VREQ 023:D2
nHSDT 010:C3;021:A2
nOPON 021:A2;028:D4
n3VREQ 018:C4
n3VIRQBS0 001:A3
R21 47K pBKCNT1 003:B3
pBATCK 021:C4
pOP1RST 028:D1
pOP2RST 028:D1
pOP3RST 028:D1
nPSG 022:D3
nIORST3V 002:C4;007:C4;014:B3;017:A4;018:A2
R22 47K
JW11
C15 0.1uF 25V
pOP1RST,pOP2RST,pOP3RST,nIORST3V,nPSG,pBATCK,pBKCNT1
R47 47K
R15 47K
MD0 MD1 MD2 MD3
PD31/D[31]/*ADTRG
PA6/*CS2/TCLKA
PA7/*CS3/TCLKB
PA8/*IRQ2/TCLKC
PA9/*IRQ3/TCLKD
PA20/*CASHL
PA21/*CASHH
PA22/*WRHL
PA23/*WRHH
PLLCAP PLLVCC PLLVSS VSS AVSS
C2 470pF 50V
R12 3.3K
R13 220
C13 0.1uF 25V
D[0]/PD0 … D[15]/PD15
SHD[0] … SHD[15]
JW142 JW143 JW144 JW145 33
D[0] 002:A2;003:A3;004:A4;008:B1;018:A1
D[1] 002:A2;003:A3;004:A4;008:B1;018:A1
D[2] 002:A2;003:A3;004:A4;008:B1;018:A1
D[3] 002:A2;003:A3;004:A4;008:B1;018:A1
D[4] 002:A2;003:A3;004:A4;008:B1;018:A1
D[5] 002:A2;003:A4;004:A4;008:B1;018:A1
D[6] 002:A2;003:A4;004:A4;008:B1;018:A1
D[7] 002:A2;003:A4;004:A4;008:B1;018:A1
D[8] 002:A2;003:A4;004:A4;008:B1;018:A1
D[9] 002:A2;003:A4;004:A4;008:B1;018:A1
D[10] 002:A2;003:A4;004:A4;008:B1;018:A1
D[11] 002:A2;003:A4;004:A4;008:B1;018:A1
D[12] 002:A3;003:A4;004:A4;008:B2;018:A1
D[13] 002:A3;003:A4;004:A4;008:B2;018:A2
D[14] 002:A3;003:A4;004:A4;008:B2;018:A2
D[15] 002:A3;003:A4;004:A4;008:B2;018:A2
R7 47K
R3 47K
R333 47K
NMI
*IRQ0/D[16]/PD16
*IRQ1/D[17]/PD17 nIRQCP13V 002:C4
*IRQ2/D[18]/PD18 nIRQCP23V 002:C4
*IRQ3/D[19]/PD19 nIRQCP33V 002:C4
*IRQ4/D[20]/PD20 nIRQSPY 016:A2
R4 47K
R8 47K
*IRQ5/D[21]/PD21
*IRQ6/D[22]/PD22 n3VIRQBS0 001:D4
*IRQ7/D[23]/PD23 nIRQMSC 002:A1
*IRQOUT/D[30]/PD30
R5 47K
PF0/AN0
PF1/AN1 nSORDET 030:D3
PF2/AN2
JP3 47KΩ
JP4 SORT MEM 8MB
PF3/AN3
PF4/AN4 n8P16M 030:D2
PF5/AN5 BATVOL 021:C3
PF6/AN6 n3SLPKY 002:C4
PF7/AN7
C1 1000pF 50V
R2 1K
*RES nRST3V 002:B4;004:A2
*WDTOVF nWDTOVF 002:A4
*BREQ/PA18/DRAK0 nMBREQ 002:D1
*BACK/PA19/DRAK1 nMBACK 002:D2
CK/PA15 CK14MLV 002:A4
R1 33
MEM2012T50R0 NF2
R9 33
NF1 BLM21B102S
R10 330
XTAL
EXTAL
R11 1M
X1 CSA7.16MTZ040
C298 100pF 50V
C299 100pF 50V
TYPE | V TYPE | FP TYPE
SORTMEM | Not Mounted | 8M
JP3 | 47K Ω | —
JP4 | — | 0Ω
— : Not Mounted
※ : Not Mounted
Model
DP-1510P/1810P /1810F/2010E
Drawing Name
SC PC Board (1/30)


A
B
C
D
1
2
3
4
MSC
IC5
DZAC000188
IC78
74VHC138MTC
IC79
74VHC138MTC
IC4
PST576CN
IC3
TC7WU04F
+5V
+3.3V
GND
DRMA[12:1]

Model	Drawing Name
DP-1510P/1810P /1810F/2010E	SC PC Board (2/30)


CN104
Option F-Rom Card
IC7
IC8
TC74VHCT244AF
IC9
TC7SH32F
IC5
GND
+5V
+3.3V
D[15-0]
DRAM[12-1]

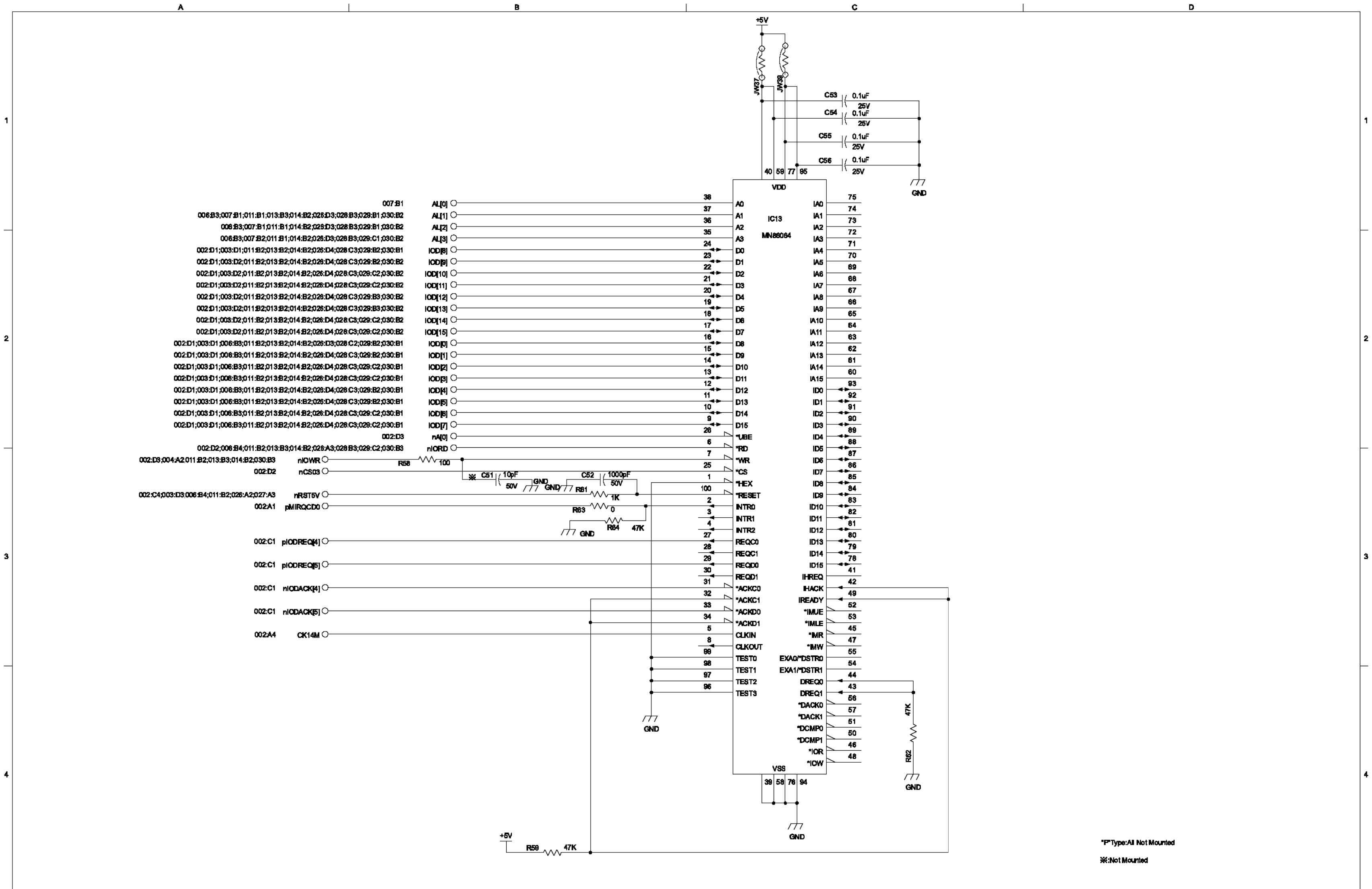
Model	Drawing Name
DP-1510P/1810P /1810F/2010E	SC PC Board (3/30)


A
B
C
D
1
2
3
4
+3.3V
JW33
C48
0.1uF
25V
GND
37
VCC
TL39
NC
*BYTE
*CE
*OE
*WE
*RESET
*WP/ACC
IC10
90.0ns
MBM29DL324BD
-90PFTN
program
RY/BY
TL18
DQ0
DQ15/A-1
GND GND
JP9
JP7
JP5
JP8
nCS1
nCS10
nRD
nIOWR
nRST3V
001:D2;002:A3
002:D2
001:D2;002:A3;003:D2;008:B2;018:A2
002:D3;005:B3;011:B2;013:B3;014:B2;030:B3
001:A3;002:B4
A[1]
A[21]
D[0]
D[15]
A[1-21],nIOWR,nRD,nRST3V
D[0-15]
JW35
C50
TL58
IC12
70ns
MBM29LV160B
-90PFTN-SFKS
cgrom
TL57
JP11
JP15
JP6
JP10
nCS3
nCS30
001:D2;002:A3
002:D2
JW36
C70
TL61
TL62
TL71
IC19
70ns
MBM29LV160B
-90PFTN-SFKS
image
TL63
nCS31
002:D2
※

TYPE	NTT TYPE	F TYPE	P TYPE
IC10(4MB)	Mounted	Mounted	
IC12(2MB)	Mounted	Not Mounted	Not Mounted
IC19(2MB)	Mounted	Mounted	Not Mounted

※:Not Mounted

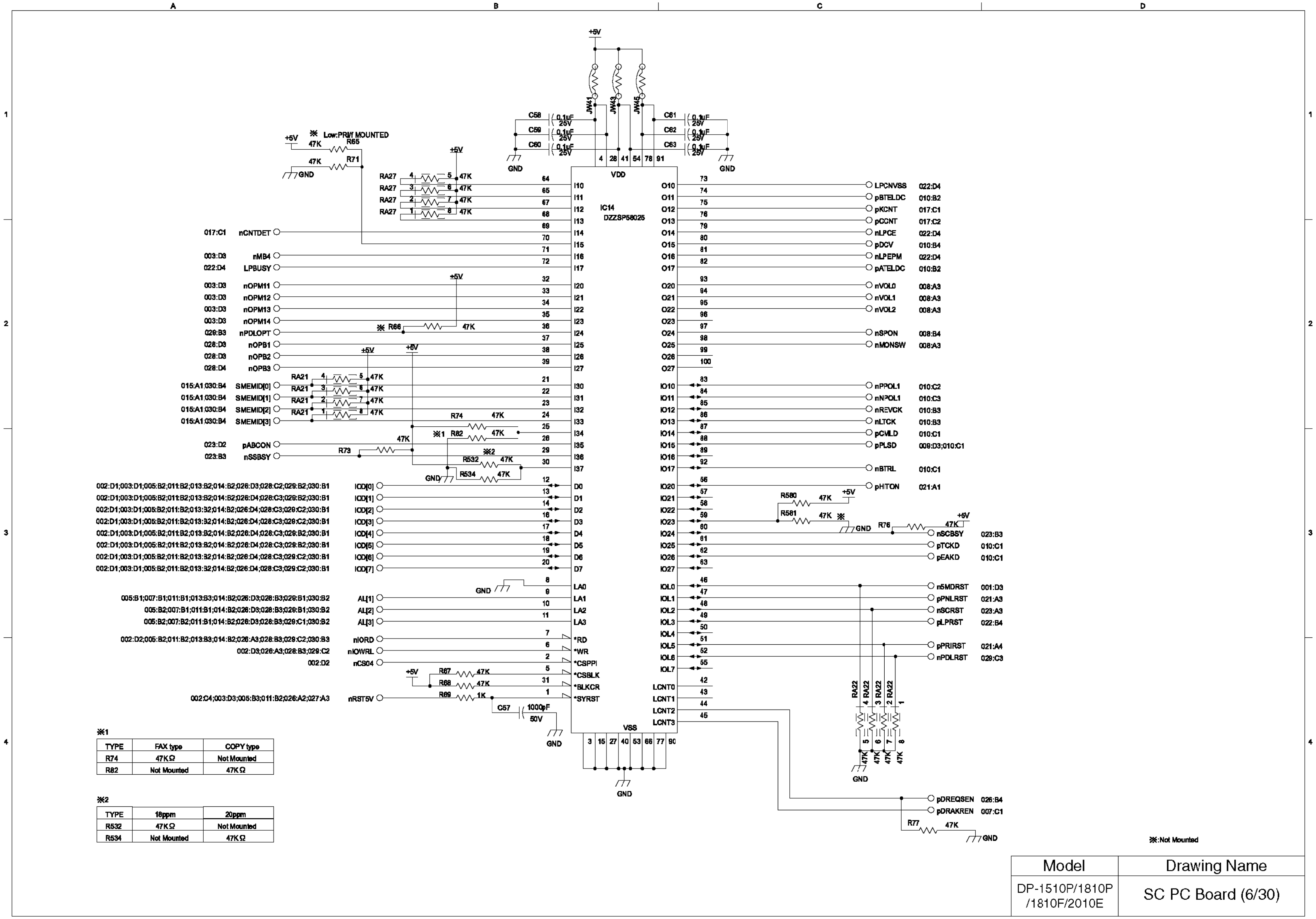
Model	Drawing Name
DP-1510P/1810P /1810F/2010E	SC PC Board (4/30)


A
B
C
D
1
2
3
4
+5V
JW37
JW38
C53 0.1uF 25V
C54 0.1uF 25V
C55 0.1uF 25V
C56 0.1uF 25V
GND
40 59 77 95
VDD
IC13
MN86084
007:B1 AL[0]
006:B3;007:B1;011:B1;013:B3;014:B2;026:D3;028:B3;029:B1;030:B2 AL[1]
006:B3;007:B1;011:B1;014:B2;026:D3;028:B3;029:B1;030:B2 AL[2]
006:B3;007:B2;011:B1;014:B2;026:D3;028:B3;029:C1;030:B2 AL[3]
002:D1;003:D1;011:B2;013:B2;014:B2;026:D4;028:C3;029:B2;030:B1 IOD[8]
002:D1;003:D2;011:B2;013:B2;014:B2;026:D4;028:C3;029:B2;030:B2 IOD[9]
002:D1;003:D2;011:B2;013:B2;014:B2;026:D4;028:C3;029:C2;030:B2 IOD[10]
002:D1;003:D2;011:B2;013:B2;014:B2;026:D4;028:C3;029:C2;030:B2 IOD[11]
002:D1;003:D2;011:B2;013:B2;014:B2;026:D4;028:C3;029:B3;030:B2 IOD[12]
002:D1;003:D2;011:B2;013:B2;014:B2;026:D4;028:C3;029:B3;030:B2 IOD[13]
002:D1;003:D2;011:B2;013:B2;014:B2;026:D4;028:C3;029:C2;030:B2 IOD[14]
002:D1;003:D2;011:B2;013:B2;014:B2;026:D4;028:C3;029:C2;030:B2 IOD[15]
002:D1;003:D1;006:B3;011:B2;013:B2;014:B2;026:D3;028:C2;029:B2;030:B1 IOD[0]
002:D1;003:D1;006:B3;011:B2;013:B2;014:B2;026:D4;028:C3;029:B2;030:B1 IOD[1]
002:D1;003:D1;006:B3;011:B2;013:B2;014:B2;026:D4;028:C3;029:C2;030:B1 IOD[2]
002:D1;003:D1;006:B3;011:B2;013:B2;014:B2;026:D4;028:C3;029:C2;030:B1 IOD[3]
002:D1;003:D1;006:B3;011:B2;013:B2;014:B2;026:D4;028:C3;029:B2;030:B1 IOD[4]
002:D1;003:D1;006:B3;011:B2;013:B2;014:B2;026:D4;028:C3;029:B2;030:B1 IOD[5]
002:D1;003:D1;006:B3;011:B2;013:B2;014:B2;026:D4;028:C3;029:C2;030:B1 IOD[6]
002:D1;003:D1;006:B3;011:B2;013:B2;014:B2;026:D4;028:C3;029:C2;030:B1 IOD[7]
002:D3 nA[0]
002:D2;006:B4;011:B2;013:B3;014:B2;026:A3;028:B3;029:C2;030:B3 nIORD
002:D3;004:A2;011:B2;013:B3;014:B2;030:B3 nIOWR
R58 100
002:D2 nCS03
※ C51 10pF 50V
GND
GND
C52 1000pF 50V
R61 1K
002:C4;003:D3;006:B4;011:B2;026:A2;027:A3 nRST5V
002:A1 pMIRQCD0
R63 0
R64 47K
GND
002:C1 pIODREQ[4]
002:C1 pIODREQ[5]
002:C1 nIODACK[4]
002:C1 nIODACK[5]
002:A4 CK14M
38 A0
37 A1
36 A2
35 A3
24 D0
23 D1
22 D2
21 D3
20 D4
19 D5
18 D6
17 D7
16 D8
15 D9
14 D10
13 D11
12 D12
11 D13
10 D14
9 D15
26 *UBE
6 *RD
7 *WR
25 *CS
1 *HEX
100 *RESET
2 INTR0
3 INTR1
4 INTR2
27 REQC0
28 REQC1
29 REQD0
30 REQD1
31 *ACKC0
32 *ACKC1
33 *ACKD0
34 *ACKD1
5 CLKIN
8 CLKOUT
99 TEST0
98 TEST1
97 TEST2
96 TEST3
GND
IA0 75
IA1 74
IA2 73
IA3 72
IA4 71
IA5 70
IA6 69
IA7 68
IA8 67
IA9 66
IA10 65
IA11 64
IA12 63
IA13 62
IA14 61
IA15 60
ID0 93
ID1 92
ID2 91
ID3 90
ID4 89
ID5 88
ID6 87
ID7 86
ID8 85
ID9 84
ID10 83
ID11 82
ID12 81
ID13 80
ID14 79
ID15 78
IHREQ 41
IHACK 42
IREADY 49
*IMUE 52
*IMLE 53
*IMR 45
*IMW 47
EXA0/*DSTR0 55
EXA1/*DSTR1 54
DREQ0 44
DREQ1 43
*DACK0 56
*DACK1 57
*DCMP0 51
*DCMP1 50
*IOR 46
*IOW 48
VSS
39 58 76 94
GND
R62 47K
GND
+5V
R59 47K

"P"Type:All Not Mounted

※:Not Mounted

Model	Drawing Name
DP-1510P/1810P /1810F/2010E	SC PC Board (5/30)


A
B
C
D
1
2
3
4
+5V
JW41
JW43
JW45
C58 0.1uF 25V
C59 0.1uF 25V
C60 0.1uF 25V
C61 0.1uF 25V
C62 0.1uF 25V
C63 0.1uF 25V
GND
4 28 41 54 78 91
VDD
IC14
DZZSP58025
※ Low:PRI/f MOUNTED
+5V 47K R65
47K R71 GND
RA27 4 5 47K
RA27 3 6 47K
RA27 2 7 47K
RA27 1 8 47K
64 I10
65 I11
67 I12
68 I13
017:C1 nCNTDET 69 I14
70 I15
003:D3 nMB4 71 I16
022:D4 LPBUSY 72 I17
003:D3 nOPM11 32 I20
003:D3 nOPM12 33 I21
003:D3 nOPM13 34 I22
003:D3 nOPM14 35 I23
028:B3 nPDLOPT ※ R66 47K 36 I24
028:D3 nOPB1 37 I25
028:D3 nOPB2 38 I26
028:D4 nOPB3 39 I27
RA21 4 5 47K
RA21 3 6 47K
RA21 2 7 47K
RA21 1 8 47K
015:A1;030:B4 SMEMID[0] 21 I30
015:A1;030:B4 SMEMID[1] 22 I31
015:A1;030:B4 SMEMID[2] 23 I32
015:A1;030:B4 SMEMID[3] 24 I33
R74 47K 25 I34
※1 R82 47K 26 I35
023:D2 pABCON 29 I36
023:B3 nSSBSY R73 47K 30 I37
※2 R532 47K
R534 47K
002:D1;003:D1;005:B2;011:B2;013:B2;014:B2;026:D3;028:C2;029:B2;030:B1 IOD[0] 12 D0
002:D1;003:D1;005:B2;011:B2;013:B2;014:B2;026:D4;028:C3;029:B2;030:B1 IOD[1] 13 D1
002:D1;003:D1;005:B2;011:B2;013:B2;014:B2;026:D4;028:C3;029:C2;030:B1 IOD[2] 14 D2
002:D1;003:D1;005:B2;011:B2;013:B2;014:B2;026:D4;028:C3;029:C2;030:B1 IOD[3] 16 D3
002:D1;003:D1;005:B2;011:B2;013:B2;014:B2;026:D4;028:C3;029:B2;030:B1 IOD[4] 17 D4
002:D1;003:D1;005:B2;011:B2;013:B2;014:B2;026:D4;028:C3;029:B2;030:B1 IOD[5] 18 D5
002:D1;003:D1;005:B2;011:B2;013:B2;014:B2;026:D4;028:C3;029:C2;030:B1 IOD[6] 19 D6
002:D1;003:D1;005:B2;011:B2;013:B2;014:B2;026:D4;028:C3;029:C2;030:B1 IOD[7] 20 D7
GND 8 LA0
005:B1;007:B1;011:B1;013:B3;014:B2;026:D3;028:B3;029:B1;030:B2 AL[1] 9 LA1
005:B2;007:B1;011:B1;014:B2;026:D3;028:B3;029:B1;030:B2 AL[2] 10 LA2
005:B2;007:B2;011:B1;014:B2;026:D3;028:B3;029:C1;030:B2 AL[3] 11 LA3
002:D2;005:B2;011:B2;013:B3;014:B2;026:A3;028:B3;029:C2;030:B3 nIORD 7 *RD
002:D3;026:A3;028:B3;029:C2 nIOWRL 6 *WR
002:D2 nCS04 2 *CSPPI
+5V R67 47K 5 *CSBLK
R68 47K 31 *BLKCR
002:C4;003:D3;005:B3;011:B2;026:A2;027:A3 nRST5V R69 1K 1 *SYRST
C57 1000pF 50V
VSS
3 15 27 40 53 66 77 90
O10 73 LPCNVSS 022:D4
O11 74 pBTELDC 010:B2
O12 75 pKCNT 017:C1
O13 76 pCCNT 017:C2
O14 79 nLPCE 022:D4
O15 80 pDCV 010:B4
O16 81 nLPEPM 022:D4
O17 82 pATELDC 010:B2
O20 93 nVOL0 008:A3
O21 94 nVOL1 008:A3
O22 95 nVOL2 008:A3
O23 96
O24 97 nSPON 008:B4
O25 98 nMONSW 008:A3
O26 99
O27 100
IO10 83 nPPOL1 010:C2
IO11 84 nNPOL1 010:C3
IO12 85 nREVCK 010:B3
IO13 86 nLTCK 010:B3
IO14 87 pCMLD 010:C1
IO15 88 pPLSD 009:D3;010:C1
IO16 89
IO17 92 nBTRL 010:C1
IO20 56 pHITON 021:A1
IO21 57
IO22 58
IO23 59
R580 47K +5V
R581 47K ※ GND
IO24 60 R76 47K +5V nSCBSY 023:B3
IO25 61 pTCKD 010:C1
IO26 62 pEAKD 010:C1
IO27 63
IOL0 46 n5MDRST 001:D3
IOL1 47 pPNLRST 021:A3
IOL2 48 nSCRST 023:A3
IOL3 49 pLPRST 022:B4
IOL4 50
IOL5 51 pPRIRST 021:A4
IOL6 52 nPDLRST 029:C3
IOL7 55
RA22 4 5 47K
RA22 3 6 47K
RA22 2 7 47K
RA22 1 8 47K
LCNT0 42
LCNT1 43
LCNT2 44
LCNT3 45
pDREQSEN 026:B4
pDRAKREN 007:C1
R77 47K GND

※1

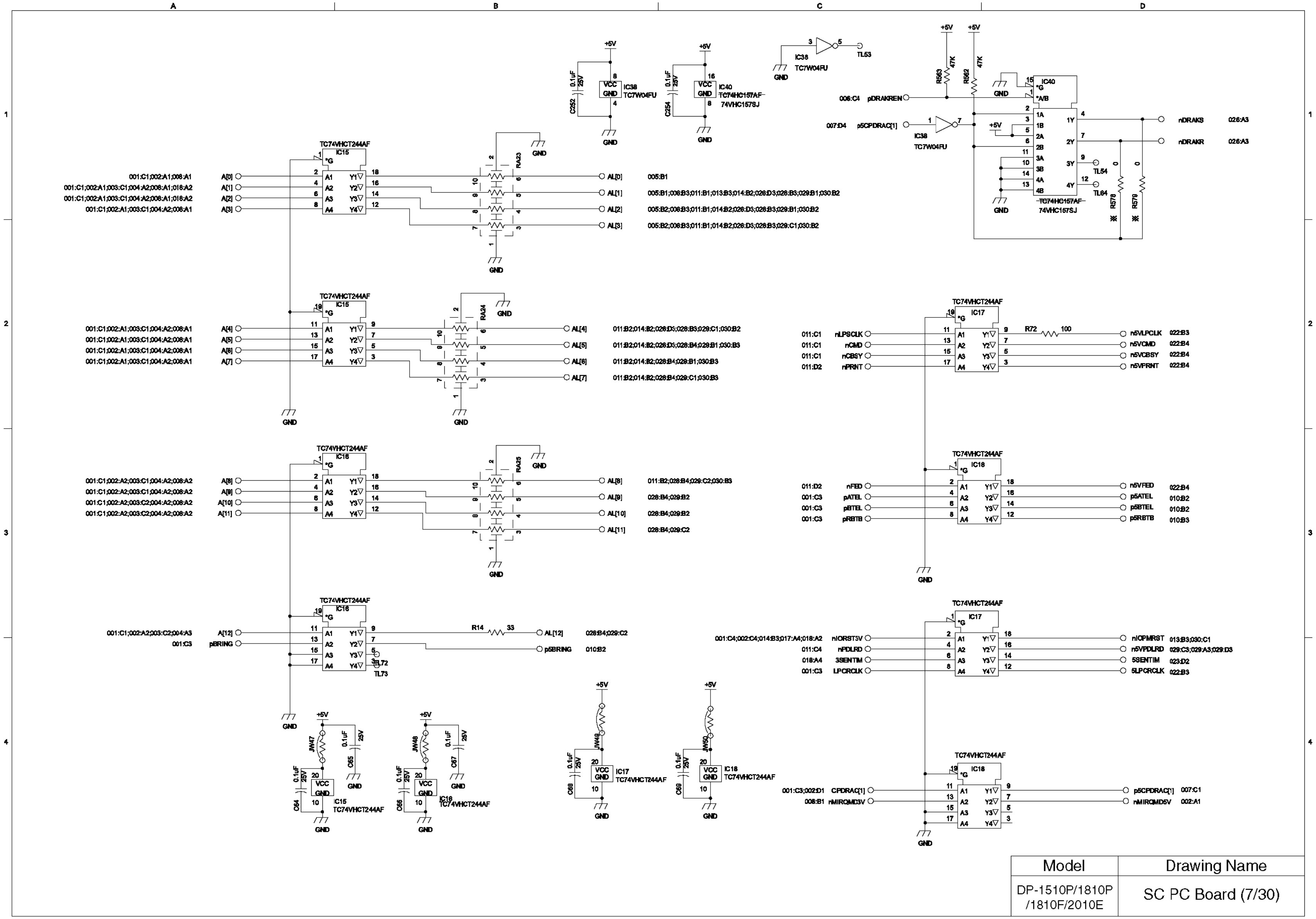
TYPE	FAX type	COPY type
R74	47KΩ	Not Mounted
R82	Not Mounted	47KΩ

※2

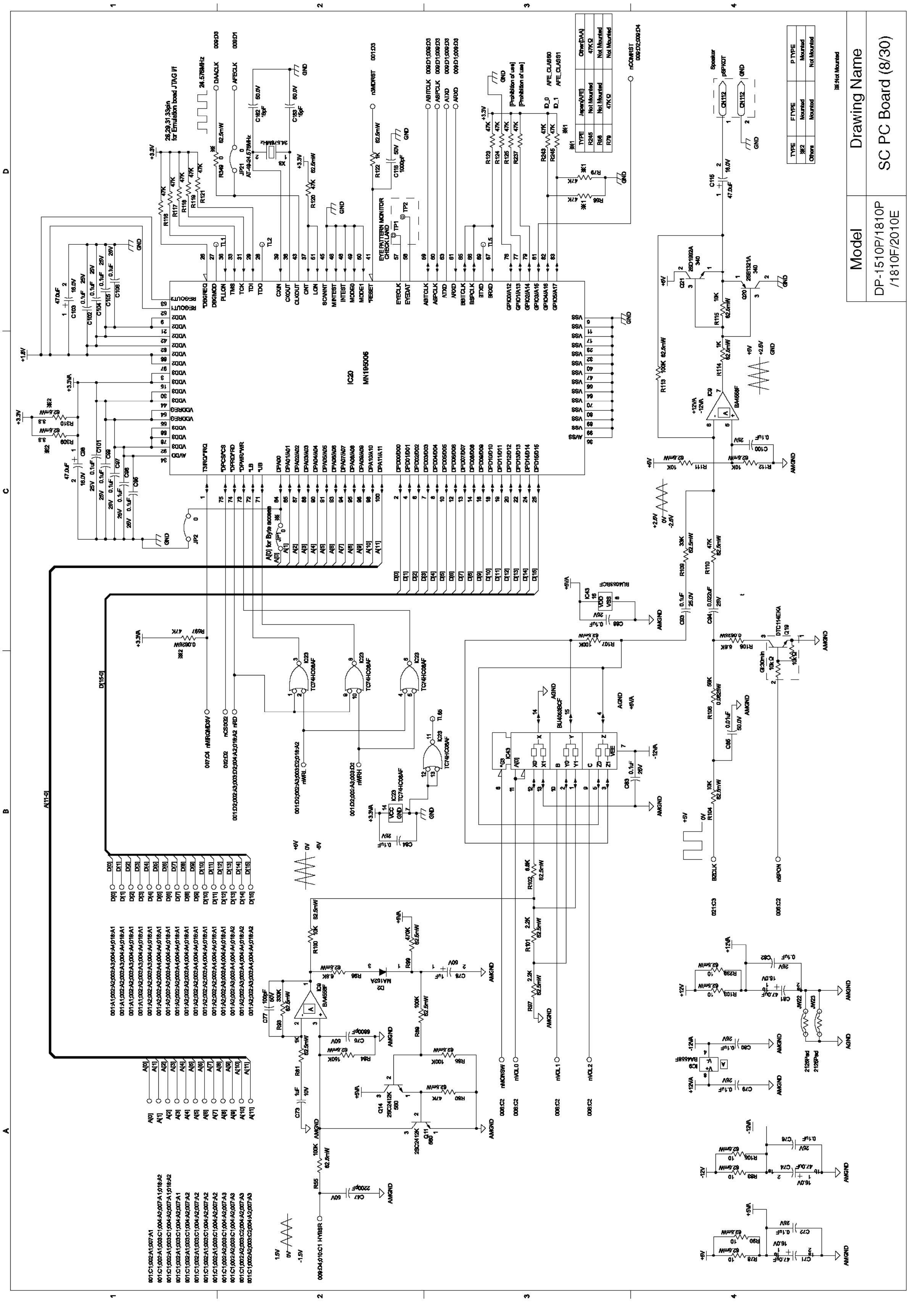
TYPE	18ppm	20ppm
R532	47KΩ	Not Mounted
R534	Not Mounted	47KΩ

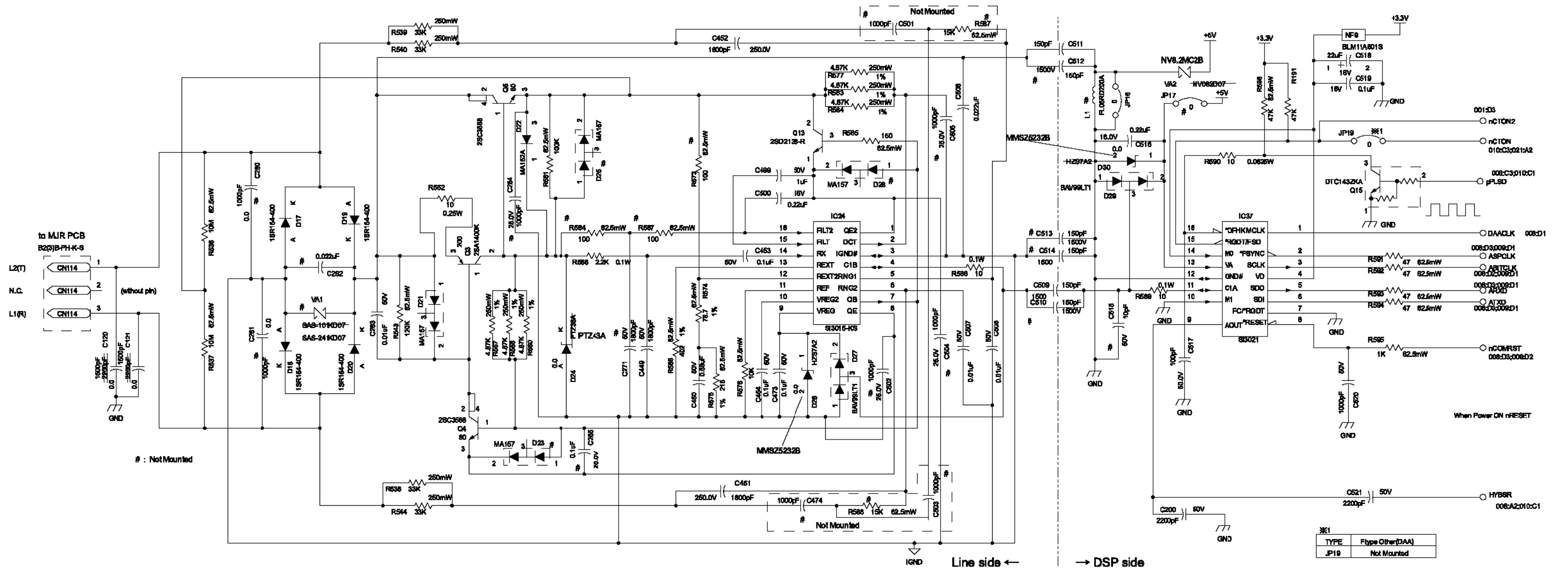
※:Not Mounted

Model	Drawing Name
DP-1510P/1810P /1810F/2010E	SC PC Board (6/30)


A
B
C
D
1
2
3
4
+5V
C252
0.1uF
25V
VCC
GND
IC38
TC7W04FU
C254
IC40
~~TC74HC157AF~~
74VHC157SJ
TL53
R563
R562
47K
006:C4
pDRAKREN
007:D4
p5CPDRAC[1]
*G
*A/B
1A
1B
2A
2B
3A
3B
4A
4B
1Y
2Y
3Y
4Y
TL54
TL64
R578
R579
0
※
nDRAKS
026:A3
nDRAKR
026:A3
TC74VHCT244AF
IC15
IC16
IC17
IC18
RA23
RA24
RA25
001:C1;002:A1;008:A1
A[0]
001:C1;002:A1;003:C1;004:A2;008:A1;018:A2
A[1]
001:C1;002:A1;003:C1;004:A2;008:A1;018:A2
A[2]
001:C1;002:A1;003:C1;004:A2;008:A1
A[3]
AL[0]
005:B1
AL[1]
005:B1;006:B3;011:B1;013:B3;014:B2;026:D3;028:B3;029:B1;030:B2
AL[2]
005:B2;006:B3;011:B1;014:B2;026:D3;028:B3;029:B1;030:B2
AL[3]
005:B2;006:B3;011:B1;014:B2;026:D3;028:B3;029:C1;030:B2
001:C1;002:A1;003:C1;004:A2;008:A1
A[4]
A[5]
A[6]
A[7]
AL[4]
011:B2;014:B2;026:D3;028:B3;029:C1;030:B2
AL[5]
011:B2;014:B2;026:D3;028:B4;029:B1;030:B3
AL[6]
011:B2;014:B2;028:B4;029:B1;030:B3
AL[7]
011:B2;014:B2;028:B4;029:C1;030:B3
001:C1;002:A2;003:C1;004:A2;008:A2
A[8]
A[9]
001:C1;002:A2;003:C2;004:A2;008:A2
A[10]
A[11]
AL[8]
011:B2;028:B4;029:C2;030:B3
AL[9]
028:B4;029:B2
AL[10]
028:B4;029:B2
AL[11]
028:B4;029:C2
001:C1;002:A2;003:C2;004:A3
A[12]
001:C3
pBRING
R14
33
AL[12]
028:B4;029:C2
p5BRING
010:B2
TL72
TL73
JW47
JW48
JW49
JW50
C64
C65
C66
C67
C68
C69
011:C1
nLPSCLK
nCMD
nCBSY
011:D2
nPRNT
R72
100
n5VLPCLK
022:B3
n5VCMD
022:B4
n5VCBSY
022:B4
n5VPRNT
022:B4
011:D2
nFED
001:C3
pATEL
pBTEL
pRBTB
n5VFED
022:B4
p5ATEL
010:B2
p5BTEL
010:B2
p5RBTB
010:B3
001:C4;002:C4;014:B3;017:A4;018:A2
nIORST3V
011:C4
nPDLRD
018:A4
3SENTIM
001:C3
LPCRCLK
nIOPMRST
013:B3;030:C1
n5VPDLRD
029:C3;029:A3;029:D3
5SENTIM
023:D2
5LPCRCLK
022:B3
001:C3;002:D1
CPDRAC[1]
008:B1
nMIRQMD3V
p5CPDRAC[1]
007:C1
nMIRQMD5V
002:A1

Model	Drawing Name
DP-1510P/1810P /1810F/2010E	SC PC Board (7/30)


Model
DP-1510P/1810P
/1810F/2010E
Drawing Name
SC PC Board (8/30)
IC20
MN195006
※:Not Mounted

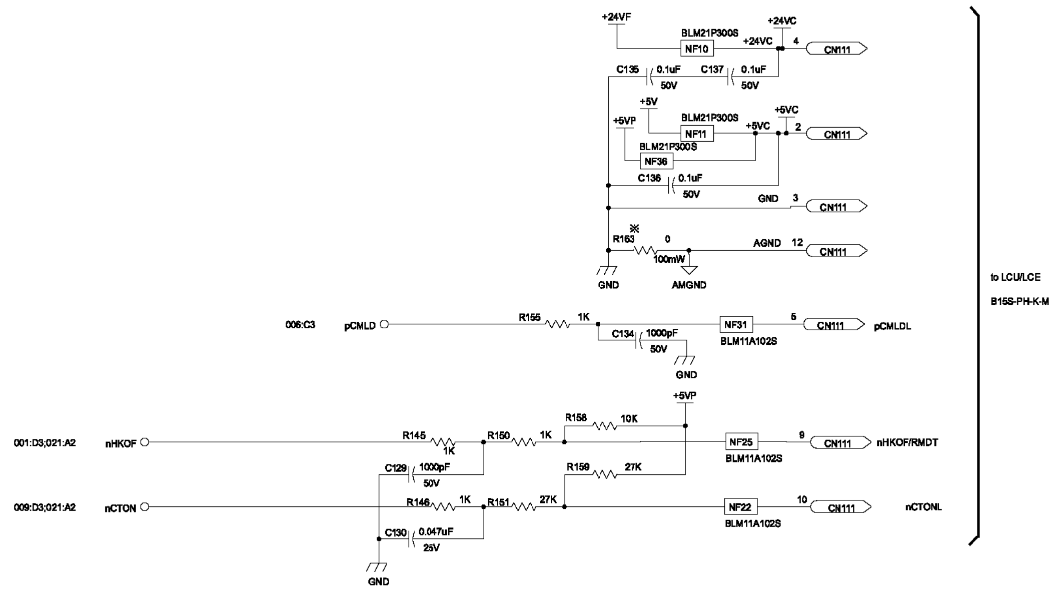

to MJR PCB
B2(3)B-PH-K-S
L2(T)
N.C.
L1(R)
CN114
(without pin)
C120
C121
1500pF
2200pF
0.0
GND
R536
R537
10M
62.5mW
C280
C281
1000pF
D17
D18
D19
D20
1SR154-400
C282
0.022uF
VA1
SAS-101KD07
SAS-241KD07
# : Not Mounted
R539
R540
R536
R544
33K
250mW
R552
10
0.25W
Q3
2SA1400K
200
C283
0.01uF
60V
R543
120K
D21
MA157
Q5
Q4
2SC3588
80
D22
MA152A
R581
100K
D26
C284
26.0V
1000pF
R557
R558
R560
4.87K
1%
PTZ43A
D24
R584
R587
R556
100
2.2K
0.1W
C271
C449
1800pF
D23
C285
0.1uF
R573
R574
78.7
R568
402
R575
215
C450
0.68uF
R576
10K
C464
C473
C452
250.0V
C451
Not Mounted
C501
R587
15K
C474
R586
R577
R583
R584
Q13
2SD2136-R
R585
150
C499
1uF
C500
0.22uF
MA157
D28
IC24
FILT2
FILT
RX
REXT
REXT2RNG1
REF
VREG2
VREG
QE2
DCT
IGND#
C1B
RNG2
QB
QE
SI3015-KS
C453
HZ37A2
D25
D27
BAV99LT1
MMSZ5232B
C502
C503
C504
C505
C506
C507
C508
0.022uF
R588
IGND
Line side ←
→ DSP side
C511
C512
C513
C514
C509
C510
150pF
1500V
L1
FL05RD200A
JP16
NV8.2MC2B
VA2
NV082D07
JP17
+5V
C516
16.0V
D30
D29
C515
10pF
R589
R590
0.0625W
R598
R191
47K
+3.3V
NF9
BLM11A601S
C518
C519
22uF
16V
IC37
*OFHK/MCLK
*RGDT/FSD
M0
VA
GND#
C1A
M1
AOUT
*FSYNC
SCLK
VD
SDO
SDI
FC/*RGDT
*RESET
SI3021
C517
100pF
50.0V
JP19
※1
DTC143ZKA
Q15
R591
R592
R593
R594
47
R595
1K
C520
1000pF
C521
C200
2200pF
001:D3
nCTON2
nCTON
010:C3;021:A2
pPLSD
008:C3;010:C1
DAACLK
008:D1
ASPCLK
008:D3;009:D1
ABITCLK
008:D2;009:D1
ARXD
ATXD
nCOMRST
008:D3;009:D2
When Power ON nRESET
HYBSR
008:A2;010:C1

※1

TYPE	Ftype Other(DAA)
JP19	Not Mounted

*P*Type : All Not Mounted
#: Not Mounted
※: Not Mounted

Model	Drawing Name
DP-1510P/1810P /1810F/2010E	SC PC Board (9/30)


+24VF
BLM21P300S
NF10
+24VC
+24VC
4
CN111
C135
0.1uF
50V
C137
0.1uF
50V
+5V
+5VP
BLM21P300S
NF11
+5VC
+5VC
2
CN111
BLM21P300S
NF36
C136
0.1uF
50V
GND
3
CN111
※
R163
0
100mW
AGND
12
CN111
GND
AMGND
006:C3
pCMLD
R155
1K
C134
1000pF
50V
GND
NF31
BLM11A102S
5
CN111
pCMLDL
+5VP
R158
10K
001:D3;021:A2
nHKOF
R145
1K
R150
1K
NF25
BLM11A102S
9
CN111
nHKOF/RMDT
C129
1000pF
50V
R159
27K
009:D3;021:A2
nCTON
R146
1K
R151
27K
NF22
BLM11A102S
10
CN111
nCTONL
C130
0.047uF
25V
GND
to LCU/LCE
B15S-PH-K-M

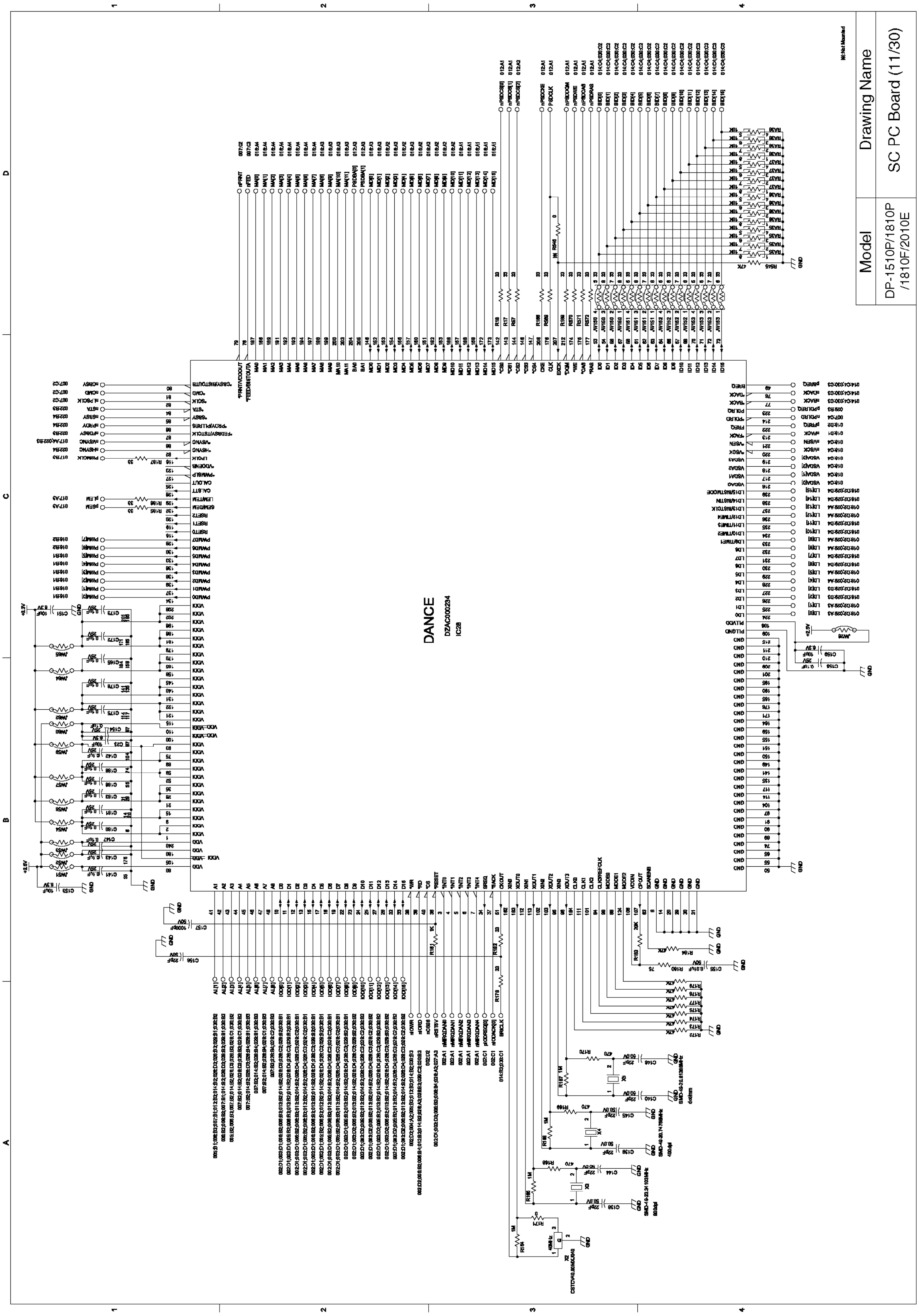
TYPE	Ftype Other(DAA)
CN111	Mounted※1
NF11	Not Mounted
NF36	Mounted

※1:CN111-2,3,4,5,9,10,12pin is used.

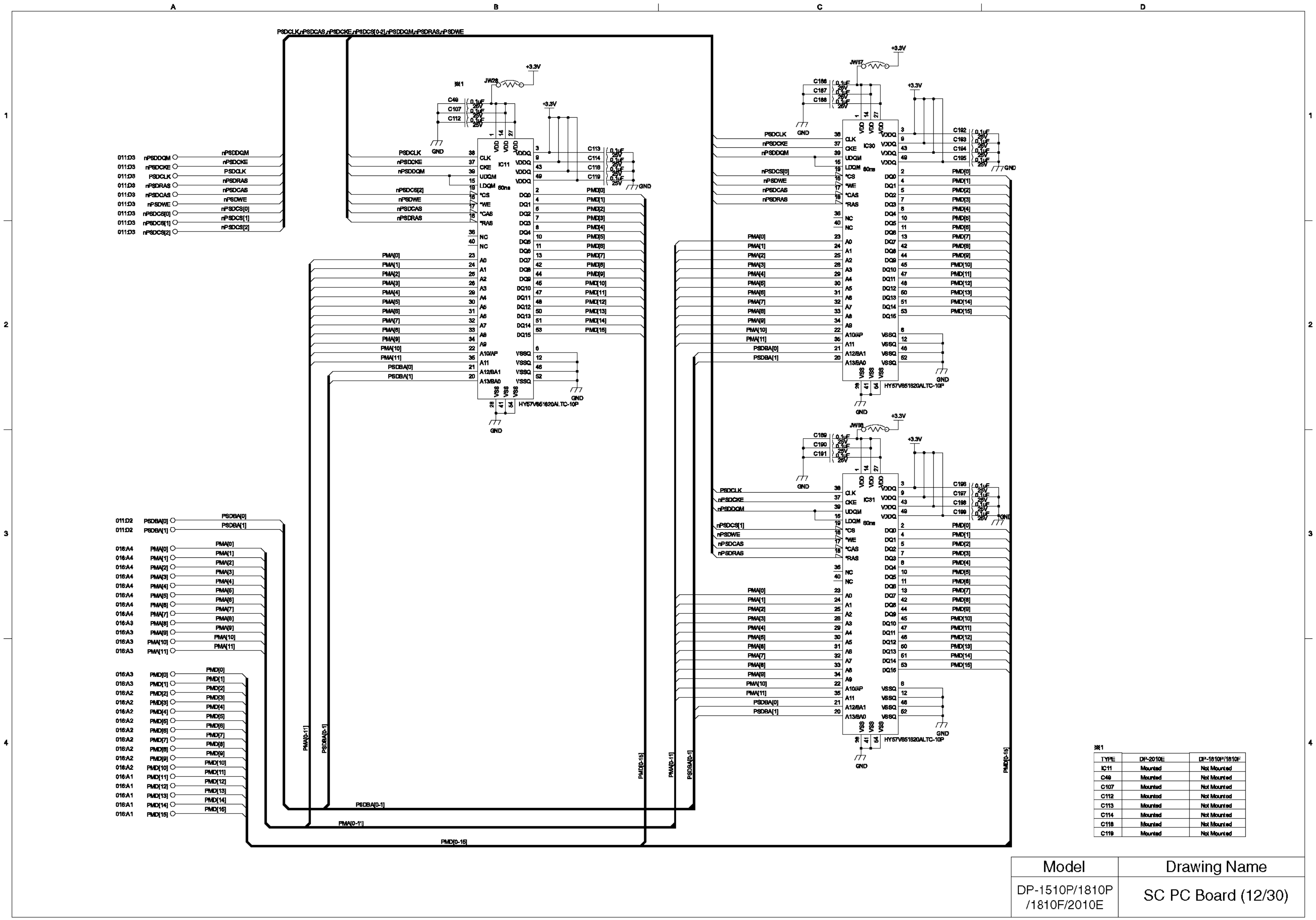
"P"Type:All Not Mounted

※:Not Mounted

Model	Drawing Name
DP-1510P/1810P /1810F/2010E	SC PC Board (10/30)


DANCE
DZAC000234
IC28
+2.5V
+3.3V
GND
X2
X3
X4
X5
1
2
3
4
A
B
C
D
NI:Not Mounted

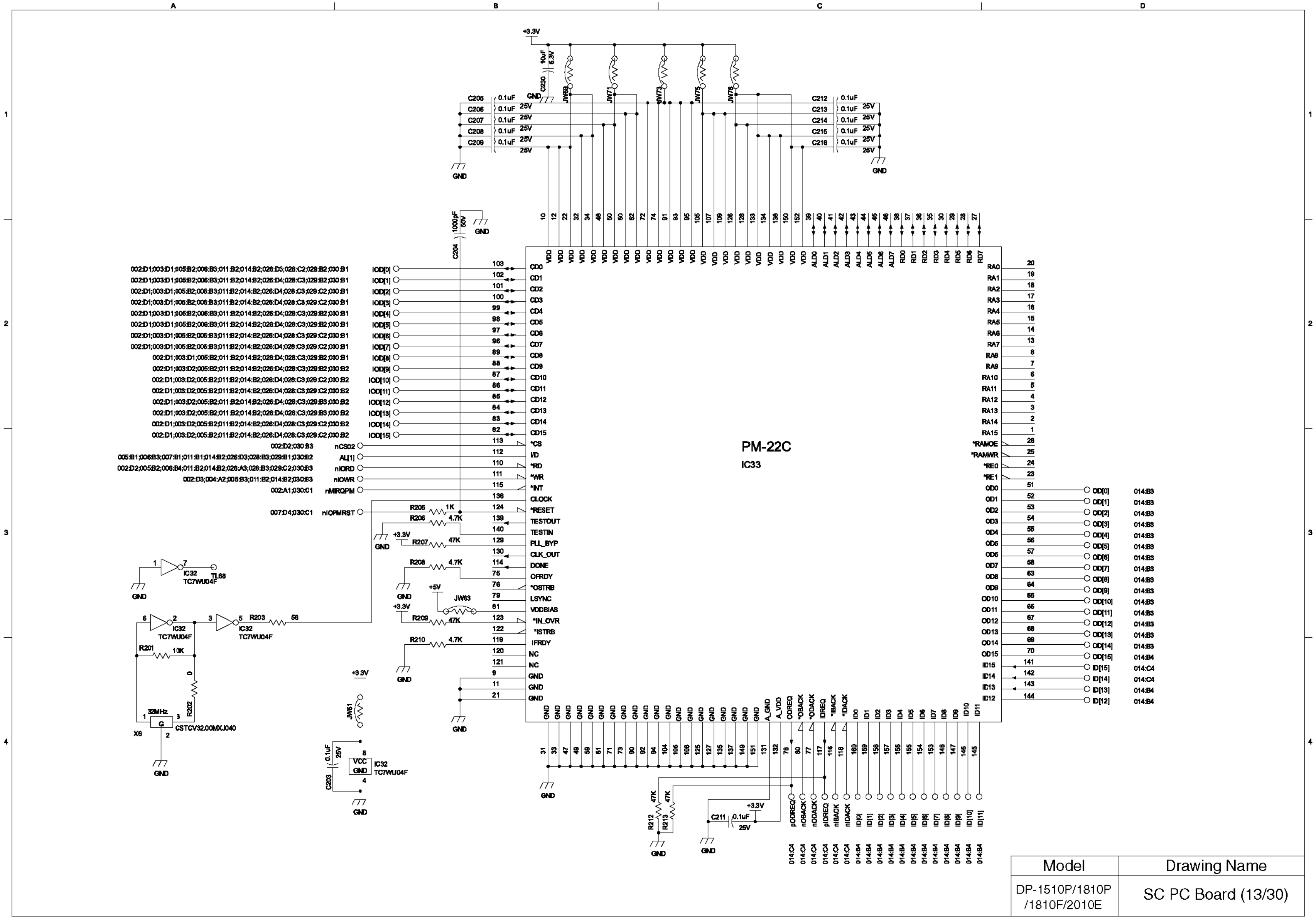
Model	Drawing Name
DP-1510P/1810P /1810F/2010E	SC PC Board (11/30)


A
B
C
D
1
2
3
4
PSDCLK,nPSDCAS,nPSDCKE,nPSDCS[0-2],nPSDDQM,nPSDRAS,nPSDWE
IC11
IC30
IC31
HY57V651620ALTC-10P
JW26
JW57
JW58
+3.3V
GND
0.1uF
25V
※1
PMA[0-11]
PSDBA[0-1]
PMD[0-15]
011:D3
011:D2
016:A4
016:A3
016:A2
016:A1

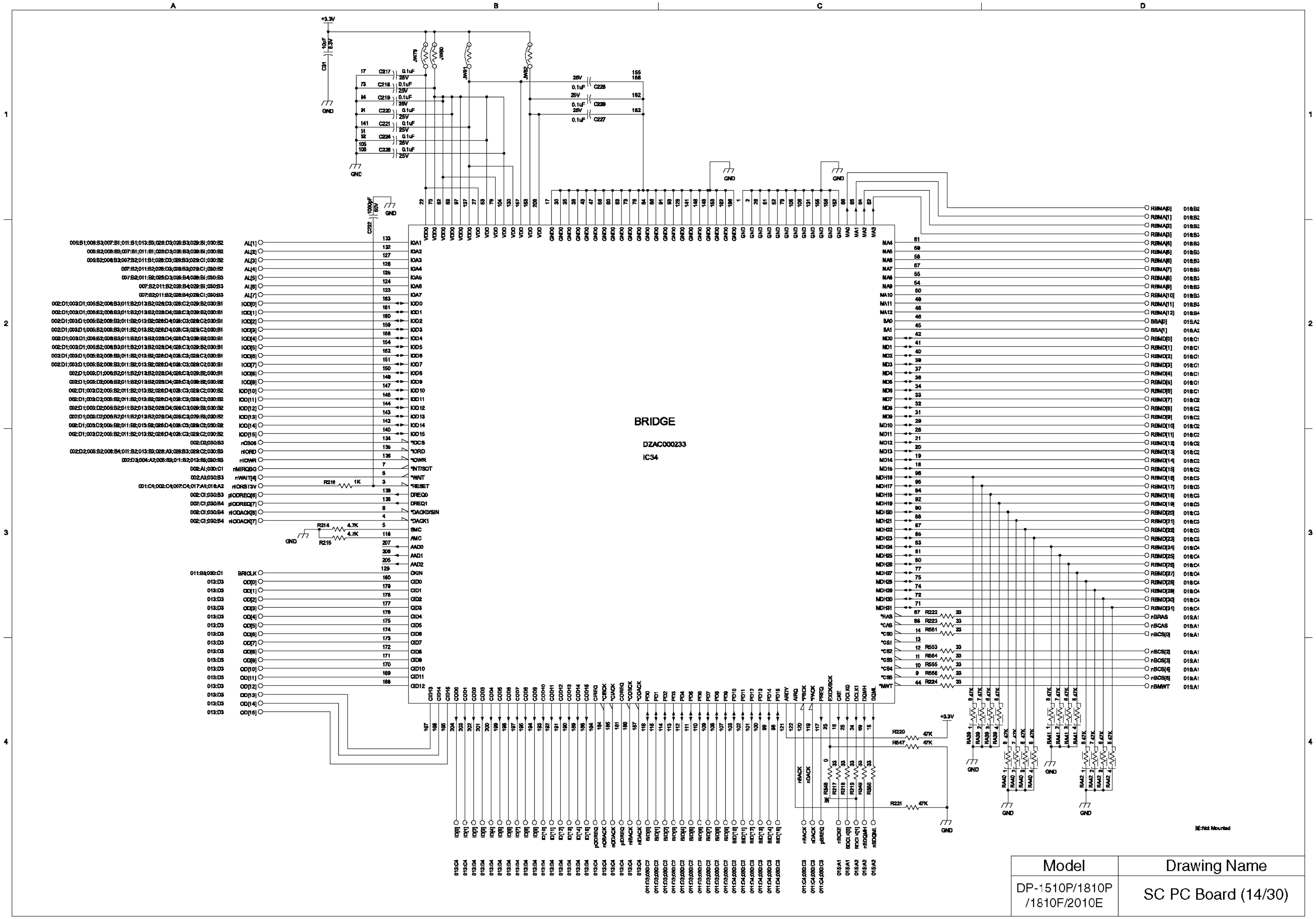
※1

TYPE	DP-2010E	DP-1810P/1810F
IC11	Mounted	Not Mounted
C49	Mounted	Not Mounted
C107	Mounted	Not Mounted
C112	Mounted	Not Mounted
C113	Mounted	Not Mounted
C114	Mounted	Not Mounted
C118	Mounted	Not Mounted
C119	Mounted	Not Mounted

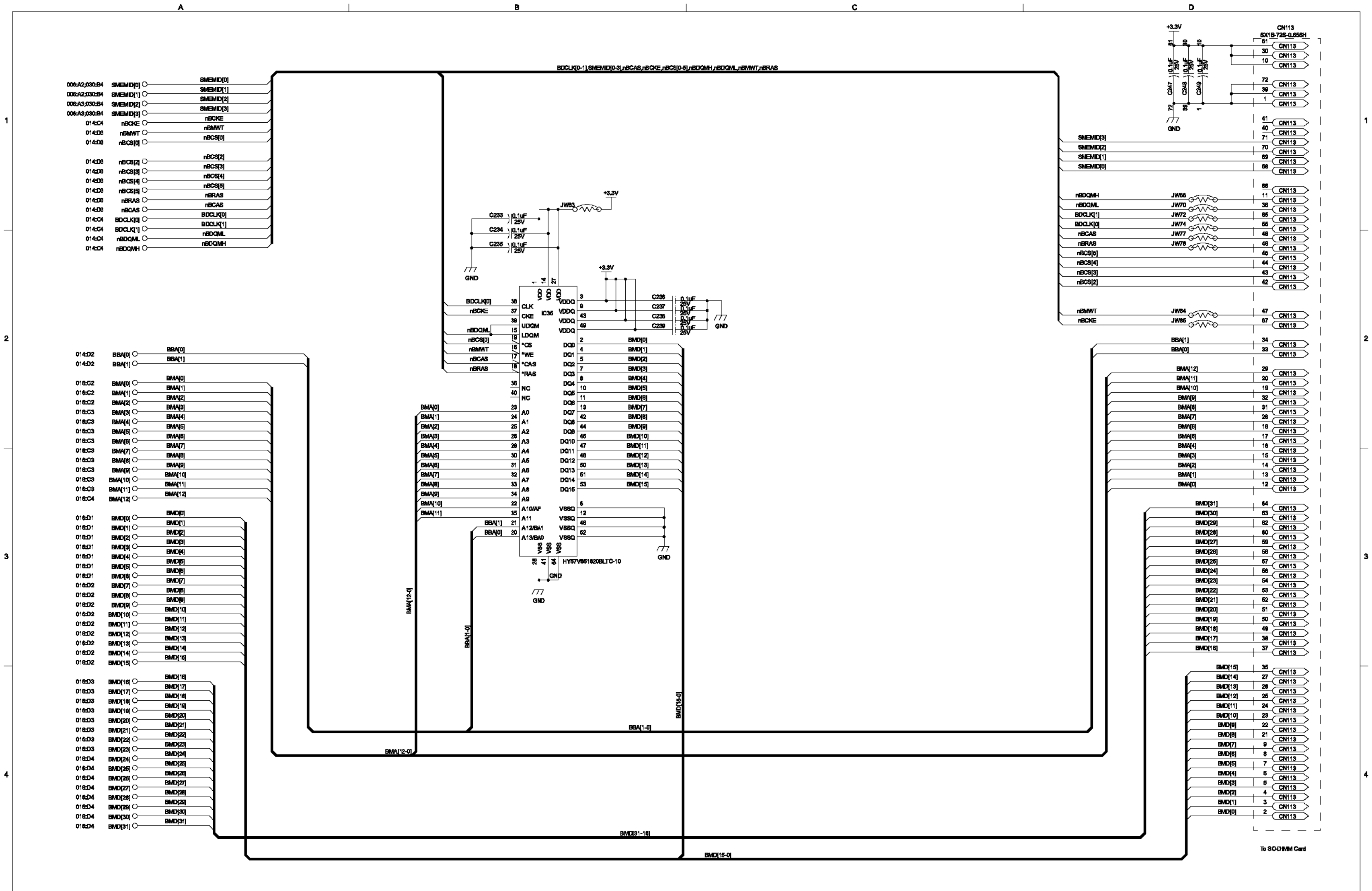
Model	Drawing Name
DP-1510P/1810P /1810F/2010E	SC PC Board (12/30)


A
B
C
D
1
2
3
4
PM-22C
IC33
+3.3V
10uF
6.3V
C230
GND
JW69
JW71
JW73
JW75
JW78
C205 0.1uF 25V
C206 0.1uF 25V
C207 0.1uF 25V
C208 0.1uF 25V
C209 0.1uF 25V
C212 0.1uF 25V
C213 0.1uF 25V
C214 0.1uF 25V
C215 0.1uF 25V
C216 0.1uF 25V
C204 1000pF 50V
002:D1;003:D1;005:B2;006:B3;011:B2;014:B2;026:D3;028:C2;029:B2;030:B1 IOD[0] 103 CD0
002:D1;003:D1;005:B2;006:B3;011:B2;014:B2;026:D4;028:C3;029:B2;030:B1 IOD[1] 102 CD1
002:D1;003:D1;005:B2;006:B3;011:B2;014:B2;026:D4;028:C3;029:C2;030:B1 IOD[2] 101 CD2
002:D1;003:D1;005:B2;006:B3;011:B2;014:B2;026:D4;028:C3;029:C2;030:B1 IOD[3] 100 CD3
002:D1;003:D1;005:B2;006:B3;011:B2;014:B2;026:D4;028:C3;029:B2;030:B1 IOD[4] 99 CD4
002:D1;003:D1;005:B2;006:B3;011:B2;014:B2;026:D4;028:C3;029:B2;030:B1 IOD[5] 98 CD5
002:D1;003:D1;005:B2;006:B3;011:B2;014:B2;026:D4;028:C3;029:C2;030:B1 IOD[6] 97 CD6
002:D1;003:D1;005:B2;006:B3;011:B2;014:B2;026:D4;028:C3;029:C2;030:B1 IOD[7] 96 CD7
002:D1;003:D1;005:B2;011:B2;014:B2;026:D4;028:C3;029:B2;030:B1 IOD[8] 89 CD8
002:D1;003:D2;005:B2;011:B2;014:B2;026:D4;028:C3;029:B2;030:B2 IOD[9] 88 CD9
002:D1;003:D2;005:B2;011:B2;014:B2;026:D4;028:C3;029:C2;030:B2 IOD[10] 87 CD10
002:D1;003:D2;005:B2;011:B2;014:B2;026:D4;028:C3;029:C2;030:B2 IOD[11] 86 CD11
002:D1;003:D2;005:B2;011:B2;014:B2;026:D4;028:C3;029:B3;030:B2 IOD[12] 85 CD12
002:D1;003:D2;005:B2;011:B2;014:B2;026:D4;028:C3;029:B3;030:B2 IOD[13] 84 CD13
002:D1;003:D2;005:B2;011:B2;014:B2;026:D4;028:C3;029:C2;030:B2 IOD[14] 83 CD14
002:D1;003:D2;005:B2;011:B2;014:B2;026:D4;028:C3;029:C2;030:B2 IOD[15] 82 CD15
002:D2;030:B3 nCS02 113 *CS
005:B1;006:B3;007:B1;011:B1;014:B2;026:D3;028:B3;029:B1;030:B2 AL[1] 112 I/D
002:D2;005:B2;006:B4;011:B2;014:B2;026:A3;028:B3;029:C2;030:B3 nIORD 110 *RD
002:D3;004:A2;005:B3;011:B2;014:B2;030:B3 nIOWR 111 *WR
002:A1;030:C1 nMIRQPM 115 *INT
136 CLOCK
007:D4;030:C1 nIOPMRST R205 1K 124 *RESET
R206 4.7K 139 TESTOUT
140 TESTIN
+3.3V R207 47K 129 PLL_BYP
130 CLK_OUT
R208 4.7K 114 DONE
75 OFRDY
76 *OSTRB
79 LSYNC
+5V JW63 81 VDDBIAS
+3.3V R209 47K 123 *IN_OVR
122 *ISTRB
R210 4.7K 119 IFRDY
120 NC
121 NC
9 GND
11 GND
21 GND
1 IC32 TC7WU04F 7 TL68
6 IC32 TC7WU04F 2
3 IC32 TC7WU04F 5 R203 56
R201 10K
R202 0
32MHz X8 G CSTCV32.00MXJ040
+3.3V JW61
C203 0.1uF 25V
VCC GND IC32 TC7WU04F 8 4
VDD 10 12 22 32 34 48 50 60 62 72 74 91 93 95 105 107 109 126 128 133 134 138 150 152
ALD0 ALD1 ALD2 ALD3 ALD4 ALD5 ALD6 ALD7 40 41 42 43 44 45 46 38
RD0 RD1 RD2 RD3 RD4 RD5 RD6 RD7 37 36 35 30 29 28 26 27
RA0 20
RA1 19
RA2 18
RA3 17
RA4 16
RA5 15
RA6 14
RA7 13
RA8 8
RA9 7
RA10 6
RA11 5
RA12 4
RA13 3
RA14 2
RA15 1
*RAMOE 26
*RAMWR 25
*RE0 24
*RE1 23
OD0 51 OD[0] 014:B3
OD1 52 OD[1] 014:B3
OD2 53 OD[2] 014:B3
OD3 54 OD[3] 014:B3
OD4 55 OD[4] 014:B3
OD5 56 OD[5] 014:B3
OD6 57 OD[6] 014:B3
OD7 58 OD[7] 014:B3
OD8 63 OD[8] 014:B3
OD9 64 OD[9] 014:B3
OD10 65 OD[10] 014:B3
OD11 66 OD[11] 014:B3
OD12 67 OD[12] 014:B3
OD13 68 OD[13] 014:B3
OD14 69 OD[14] 014:B3
OD15 70 OD[15] 014:B4
ID15 141 ID[15] 014:C4
ID14 142 ID[14] 014:C4
ID13 143 ID[13] 014:B4
ID12 144 ID[12] 014:B4
GND 31 33 47 49 59 61 71 73 90 92 94 104 106 108 125 127 135 137 149 151
A_GND 131
A_VDD 132
ODREQ 78 pODREQ 014:C4
*OBACK 80 nOBACK 014:C4
*ODACK 77 nODACK 014:C4
IDREQ 117 pIDREQ 014:C4
*IBACK 116 nIBACK 014:C4
*IDACK 118 nIDACK 014:C4
ID0 160 ID[0] 014:B4
ID1 159 ID[1] 014:B4
ID2 158 ID[2] 014:B4
ID3 157 ID[3] 014:B4
ID4 156 ID[4] 014:B4
ID5 155 ID[5] 014:B4
ID6 154 ID[6] 014:B4
ID7 153 ID[7] 014:B4
ID8 148 ID[8] 014:B4
ID9 147 ID[9] 014:B4
ID10 146 ID[10] 014:B4
ID11 145 ID[11] 014:B4
R212 47K
R213 47K
C211 0.1uF 25V
+3.3V

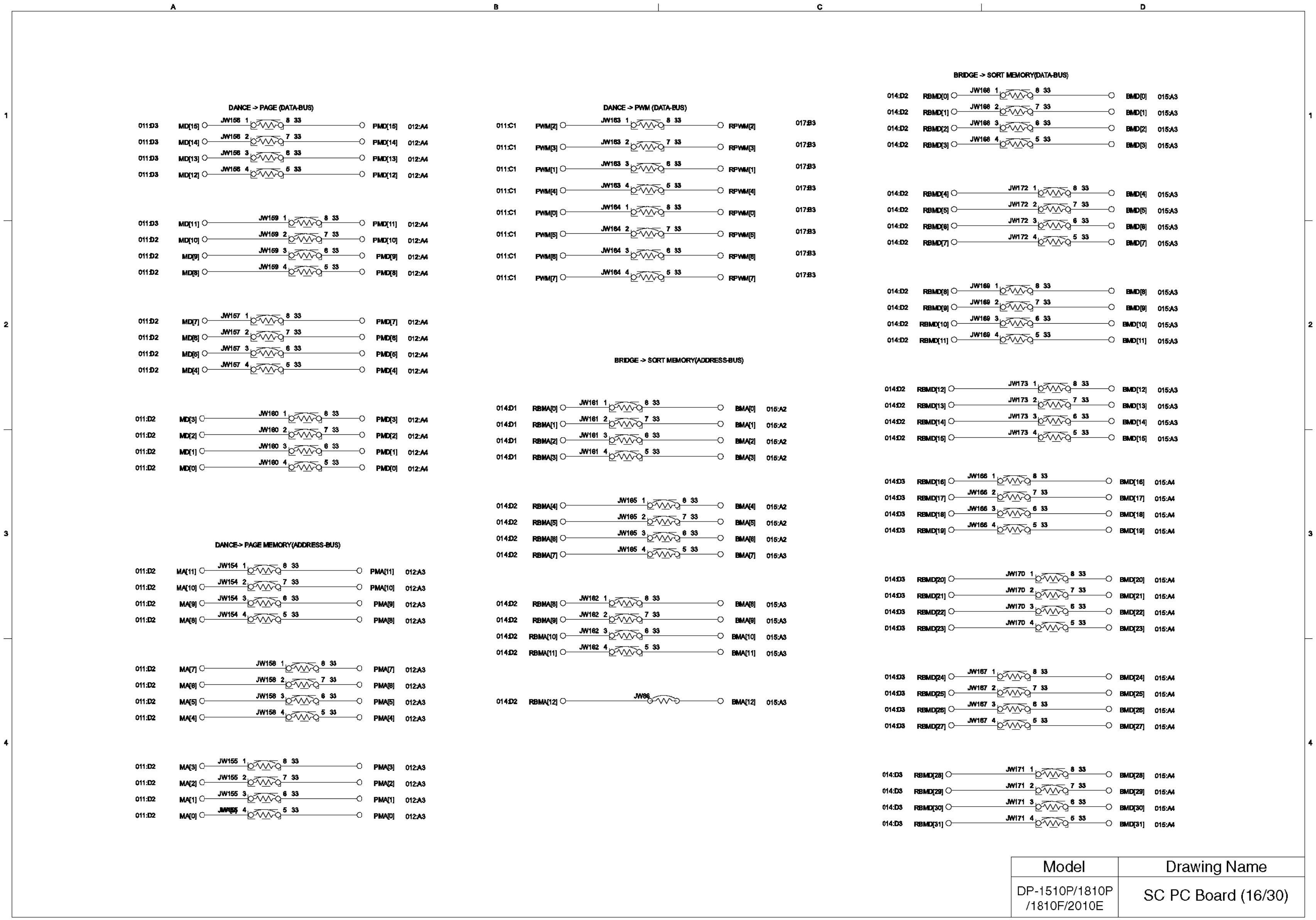
Model	Drawing Name
DP-1510P/1810P /1810F/2010E	SC PC Board (13/30)


BRIDGE
DZAC000233
IC34
+3.3V
GND
※:Not Mounted
A
B
C
D
1
2
3
4

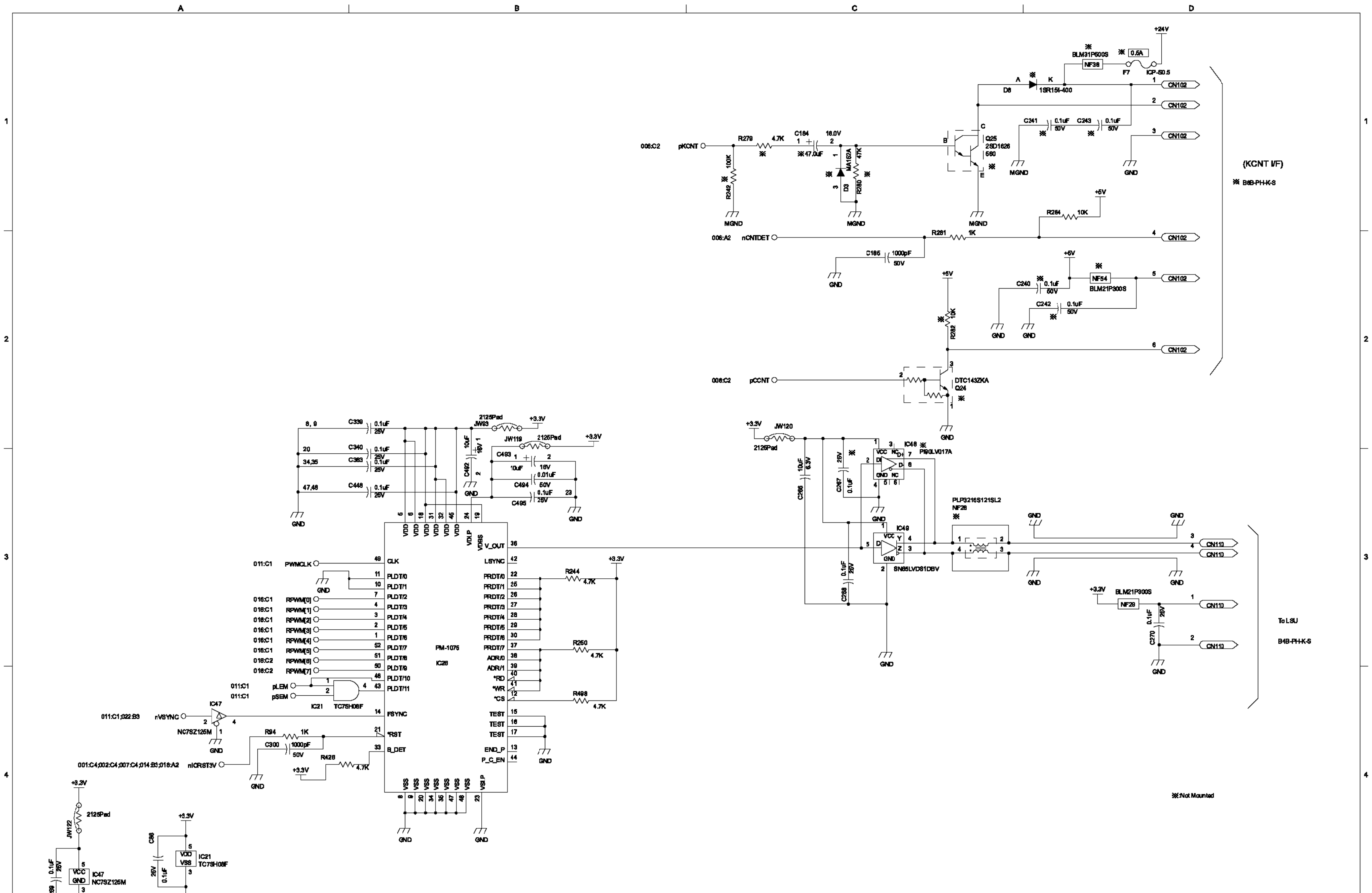
Model	Drawing Name
DP-1510P/1810P /1810F/2010E	SC PC Board (14/30)


A
B
C
D
1
2
3
4
BDCLK[0-1],SMEMID[0-3],nBCAS,nBCKE,nBCS[0-5],nBDQMH,nBDQML,nBMWT,nBRAS
IC35
HY57V651620BLTC-10
+3.3V
GND
CN113
SX1B-72S-0.65SH
BBA[1-0]
BMA[12-0]
BMD[15-0]
BMD[31-16]
To SO-DIMM Card

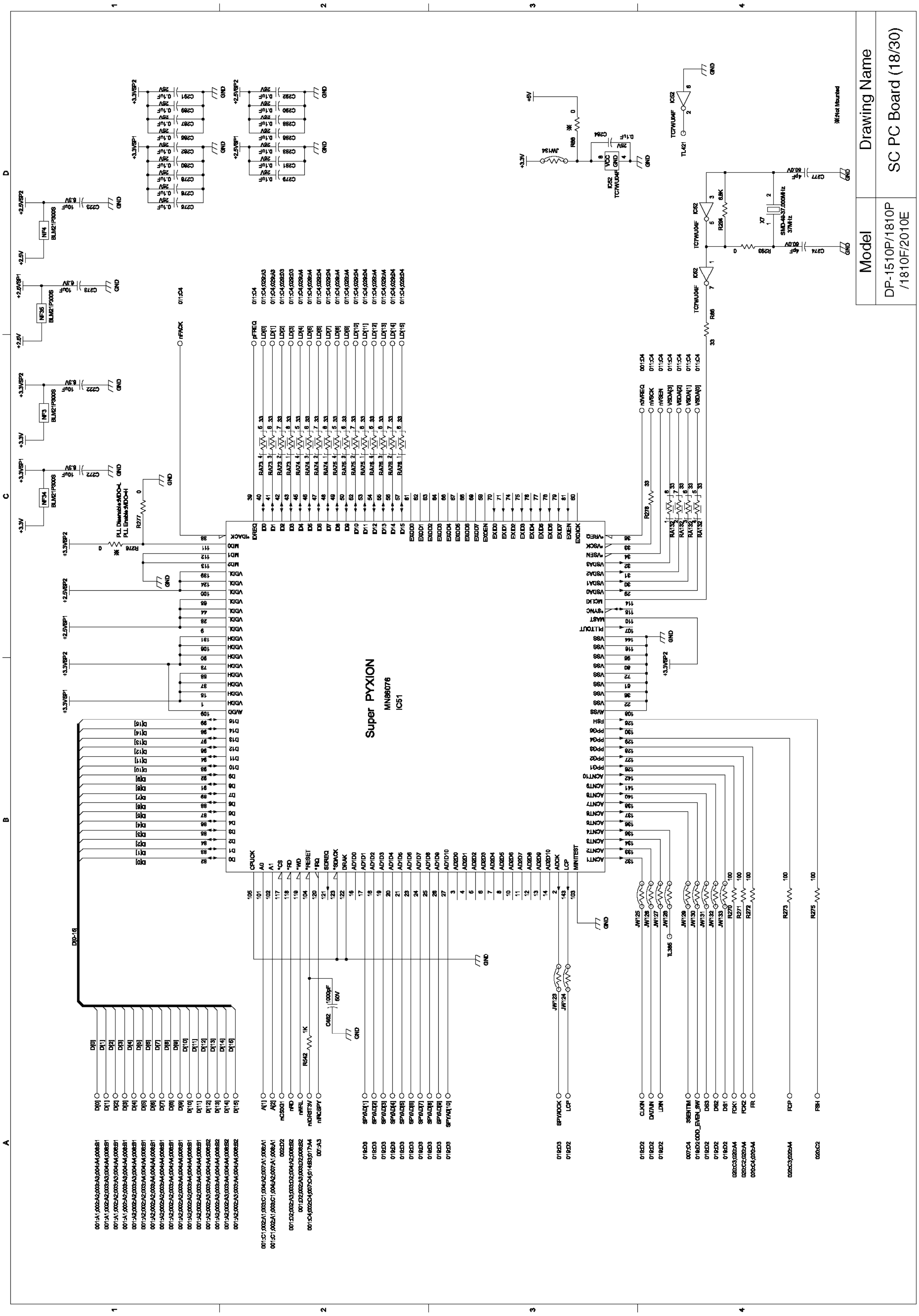
Model	Drawing Name
DP-1510P/1810P /1810F/2010E	SC PC Board (15/30)

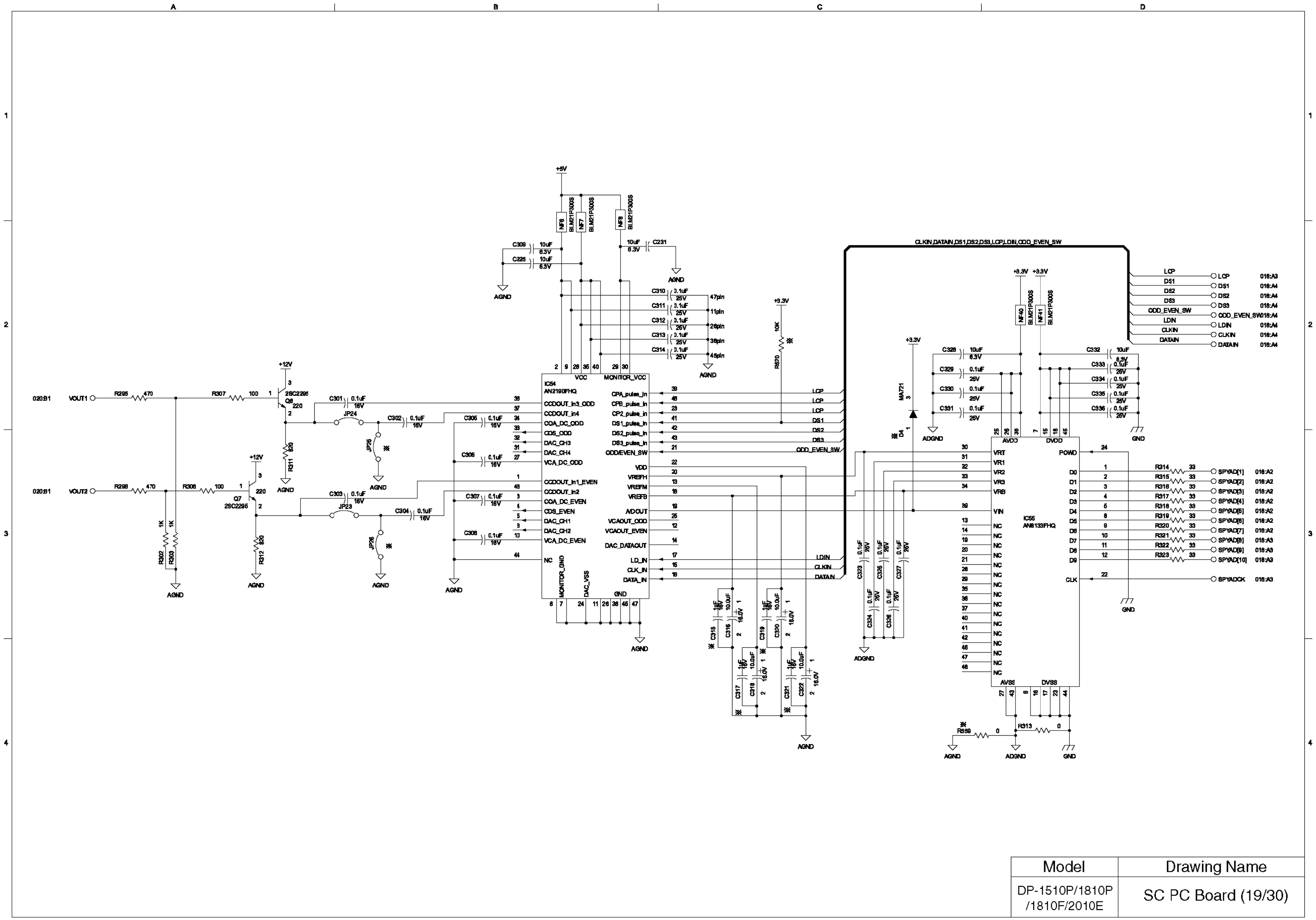

A
B
C
D
1
2
3
4
DANCE -> PAGE (DATA-BUS)
011:D3 MD[15] JW156 1 8 33 PMD[15] 012:A4
011:D3 MD[14] JW156 2 7 33 PMD[14] 012:A4
011:D3 MD[13] JW156 3 6 33 PMD[13] 012:A4
011:D3 MD[12] JW156 4 5 33 PMD[12] 012:A4
011:D3 MD[11] JW159 1 8 33 PMD[11] 012:A4
011:D2 MD[10] JW159 2 7 33 PMD[10] 012:A4
011:D2 MD[9] JW159 3 6 33 PMD[9] 012:A4
011:D2 MD[8] JW159 4 5 33 PMD[8] 012:A4
011:D2 MD[7] JW157 1 8 33 PMD[7] 012:A4
011:D2 MD[6] JW157 2 7 33 PMD[6] 012:A4
011:D2 MD[5] JW157 3 6 33 PMD[5] 012:A4
011:D2 MD[4] JW157 4 5 33 PMD[4] 012:A4
011:D2 MD[3] JW160 1 8 33 PMD[3] 012:A4
011:D2 MD[2] JW160 2 7 33 PMD[2] 012:A4
011:D2 MD[1] JW160 3 6 33 PMD[1] 012:A4
011:D2 MD[0] JW160 4 5 33 PMD[0] 012:A4
DANCE-> PAGE MEMORY(ADDRESS-BUS)
011:D2 MA[11] JW154 1 8 33 PMA[11] 012:A3
011:D2 MA[10] JW154 2 7 33 PMA[10] 012:A3
011:D2 MA[9] JW154 3 6 33 PMA[9] 012:A3
011:D2 MA[8] JW154 4 5 33 PMA[8] 012:A3
011:D2 MA[7] JW158 1 8 33 PMA[7] 012:A3
011:D2 MA[6] JW158 2 7 33 PMA[6] 012:A3
011:D2 MA[5] JW158 3 6 33 PMA[5] 012:A3
011:D2 MA[4] JW158 4 5 33 PMA[4] 012:A3
011:D2 MA[3] JW155 1 8 33 PMA[3] 012:A3
011:D2 MA[2] JW155 2 7 33 PMA[2] 012:A3
011:D2 MA[1] JW155 3 6 33 PMA[1] 012:A3
011:D2 MA[0] JW155 4 5 33 PMA[0] 012:A3
DANCE -> PWM (DATA-BUS)
011:C1 PWM[2] JW163 1 8 33 RPWM[2] 017:B3
011:C1 PWM[3] JW163 2 7 33 RPWM[3] 017:B3
011:C1 PWM[1] JW163 3 6 33 RPWM[1] 017:B3
011:C1 PWM[4] JW163 4 5 33 RPWM[4] 017:B3
011:C1 PWM[0] JW164 1 8 33 RPWM[0] 017:B3
011:C1 PWM[5] JW164 2 7 33 RPWM[5] 017:B3
011:C1 PWM[6] JW164 3 6 33 RPWM[6] 017:B3
011:C1 PWM[7] JW164 4 5 33 RPWM[7] 017:B3
BRIDGE -> SORT MEMORY(ADDRESS-BUS)
014:D1 RBMA[0] JW161 1 8 33 BMA[0] 015:A2
014:D1 RBMA[1] JW161 2 7 33 BMA[1] 015:A2
014:D1 RBMA[2] JW161 3 6 33 BMA[2] 015:A2
014:D1 RBMA[3] JW161 4 5 33 BMA[3] 015:A2
014:D2 RBMA[4] JW165 1 8 33 BMA[4] 015:A2
014:D2 RBMA[5] JW165 2 7 33 BMA[5] 015:A2
014:D2 RBMA[6] JW165 3 6 33 BMA[6] 015:A2
014:D2 RBMA[7] JW165 4 5 33 BMA[7] 015:A3
014:D2 RBMA[8] JW162 1 8 33 BMA[8] 015:A3
014:D2 RBMA[9] JW162 2 7 33 BMA[9] 015:A3
014:D2 RBMA[10] JW162 3 6 33 BMA[10] 015:A3
014:D2 RBMA[11] JW162 4 5 33 BMA[11] 015:A3
014:D2 RBMA[12] JW86 BMA[12] 015:A3
BRIDGE -> SORT MEMORY(DATA-BUS)
014:D2 RBMD[0] JW168 1 8 33 BMD[0] 015:A3
014:D2 RBMD[1] JW168 2 7 33 BMD[1] 015:A3
014:D2 RBMD[2] JW168 3 6 33 BMD[2] 015:A3
014:D2 RBMD[3] JW168 4 5 33 BMD[3] 015:A3
014:D2 RBMD[4] JW172 1 8 33 BMD[4] 015:A3
014:D2 RBMD[5] JW172 2 7 33 BMD[5] 015:A3
014:D2 RBMD[6] JW172 3 6 33 BMD[6] 015:A3
014:D2 RBMD[7] JW172 4 5 33 BMD[7] 015:A3
014:D2 RBMD[8] JW169 1 8 33 BMD[8] 015:A3
014:D2 RBMD[9] JW169 2 7 33 BMD[9] 015:A3
014:D2 RBMD[10] JW169 3 6 33 BMD[10] 015:A3
014:D2 RBMD[11] JW169 4 5 33 BMD[11] 015:A3
014:D2 RBMD[12] JW173 1 8 33 BMD[12] 015:A3
014:D2 RBMD[13] JW173 2 7 33 BMD[13] 015:A3
014:D2 RBMD[14] JW173 3 6 33 BMD[14] 015:A3
014:D2 RBMD[15] JW173 4 5 33 BMD[15] 015:A3
014:D3 RBMD[16] JW166 1 8 33 BMD[16] 015:A4
014:D3 RBMD[17] JW166 2 7 33 BMD[17] 015:A4
014:D3 RBMD[18] JW166 3 6 33 BMD[18] 015:A4
014:D3 RBMD[19] JW166 4 5 33 BMD[19] 015:A4
014:D3 RBMD[20] JW170 1 8 33 BMD[20] 015:A4
014:D3 RBMD[21] JW170 2 7 33 BMD[21] 015:A4
014:D3 RBMD[22] JW170 3 6 33 BMD[22] 015:A4
014:D3 RBMD[23] JW170 4 5 33 BMD[23] 015:A4
014:D3 RBMD[24] JW167 1 8 33 BMD[24] 015:A4
014:D3 RBMD[25] JW167 2 7 33 BMD[25] 015:A4
014:D3 RBMD[26] JW167 3 6 33 BMD[26] 015:A4
014:D3 RBMD[27] JW167 4 5 33 BMD[27] 015:A4
014:D3 RBMD[28] JW171 1 8 33 BMD[28] 015:A4
014:D3 RBMD[29] JW171 2 7 33 BMD[29] 015:A4
014:D3 RBMD[30] JW171 3 6 33 BMD[30] 015:A4
014:D3 RBMD[31] JW171 4 5 33 BMD[31] 015:A4

Model	Drawing Name
DP-1510P/1810P /1810F/2010E	SC PC Board (16/30)

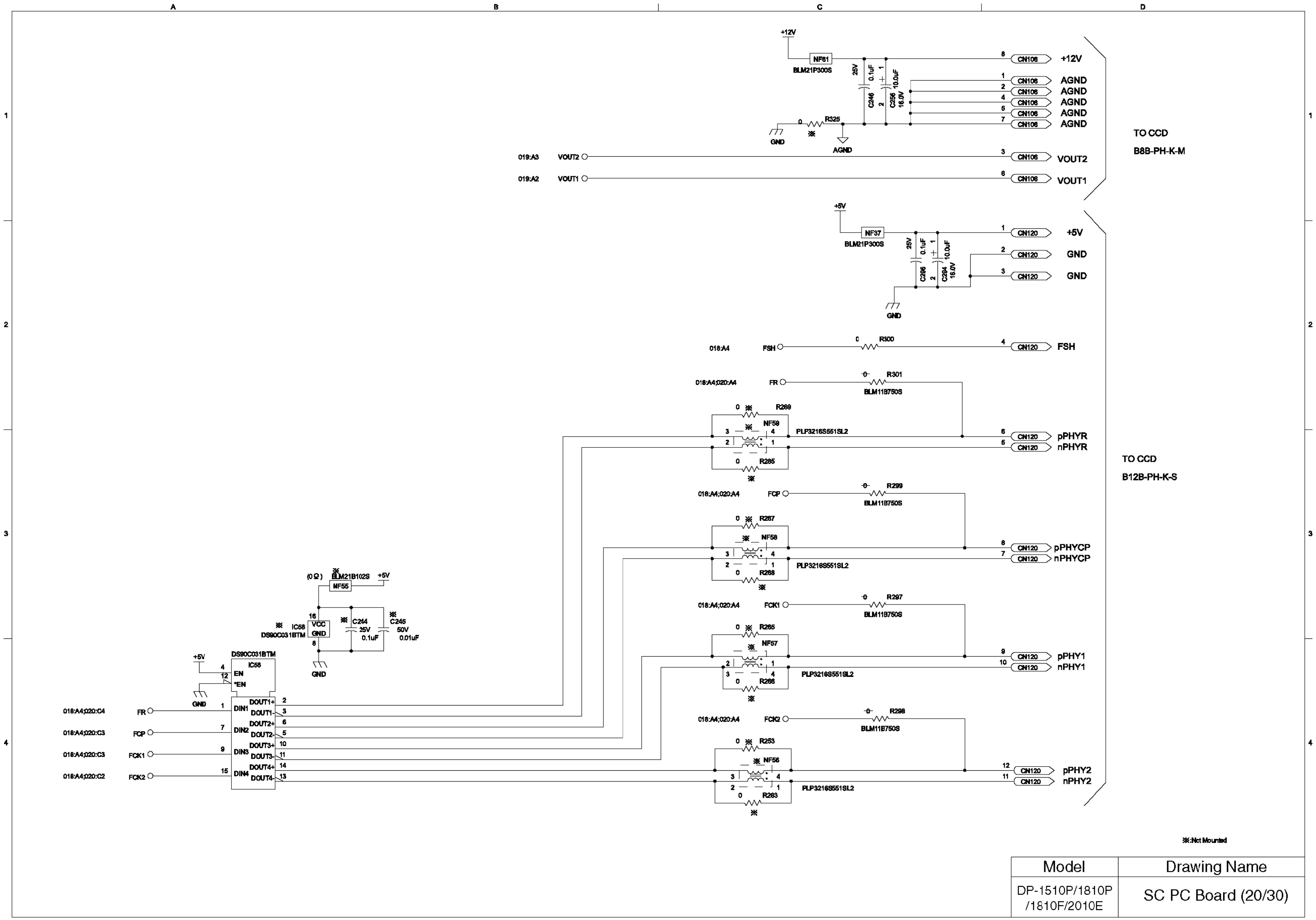

A
B
C
D
1
2
3
4
+24V
BLM31P600S
NF38
0.5A
F7
ICP-S0.5
D8
1SR154-400
CN102
(KCNT I/F)
※ B6B-PH-K-S
Q25
2SD1626
560
C241
C243
0.1uF
50V
MGND
GND
006:C2
pKCNT
R279
4.7K
C184
16.0V
47.0uF
R242
100K
D3
MA152A
R280
47K
R284
10K
+5V
006:A2
nCNTDET
R281
1K
C186
1000pF
C240
C242
NF54
BLM21P300S
R282
10K
006:C2
pCCNT
DTC143ZKA
Q24
+3.3V
JW120
2125Pad
C266
10uF
6.3V
C267
25V
IC48
PI90LV017A
IC49
SN65LVDS1DBV
C268
PLP3216S121SL2
NF26
CN113
To LSU
B4B-PH-K-S
NF29
C270
BLM21P300S
C339
C340
C383
C448
8, 9
20
34,35
47,48
JW93
JW119
C492
C493
C494
C495
0.01uF
PM-1076
IC28
CLK
PLDT/0
PLDT/11
RPWM[0]
RPWM[7]
011:C1
PWMCLK
016:C1
016:C2
pLEM
pSEM
IC21
TC7SH08F
FSYNC
*RST
B_DET
IC47
NC7SZ125M
011:C1;022:B3
rVSYNC
001:C4;002:C4;007:C4;014:B3;018:A2
nICRST3V
R94
C300
R428
V_OUT
LSYNC
PRDT/0
PRDT/7
ADR/0
ADR/1
*RD
*WR
*CS
R244
R260
R498
TEST
END_P
P_C_EN
VDD
VDLP
VDBS
VSS
VSLP
JW122
C269
C86
VCC
VDD
※:Not Mounted

Model	Drawing Name
DP-1510P/1810P /1810F/2010E	SC PC Board (17/30)

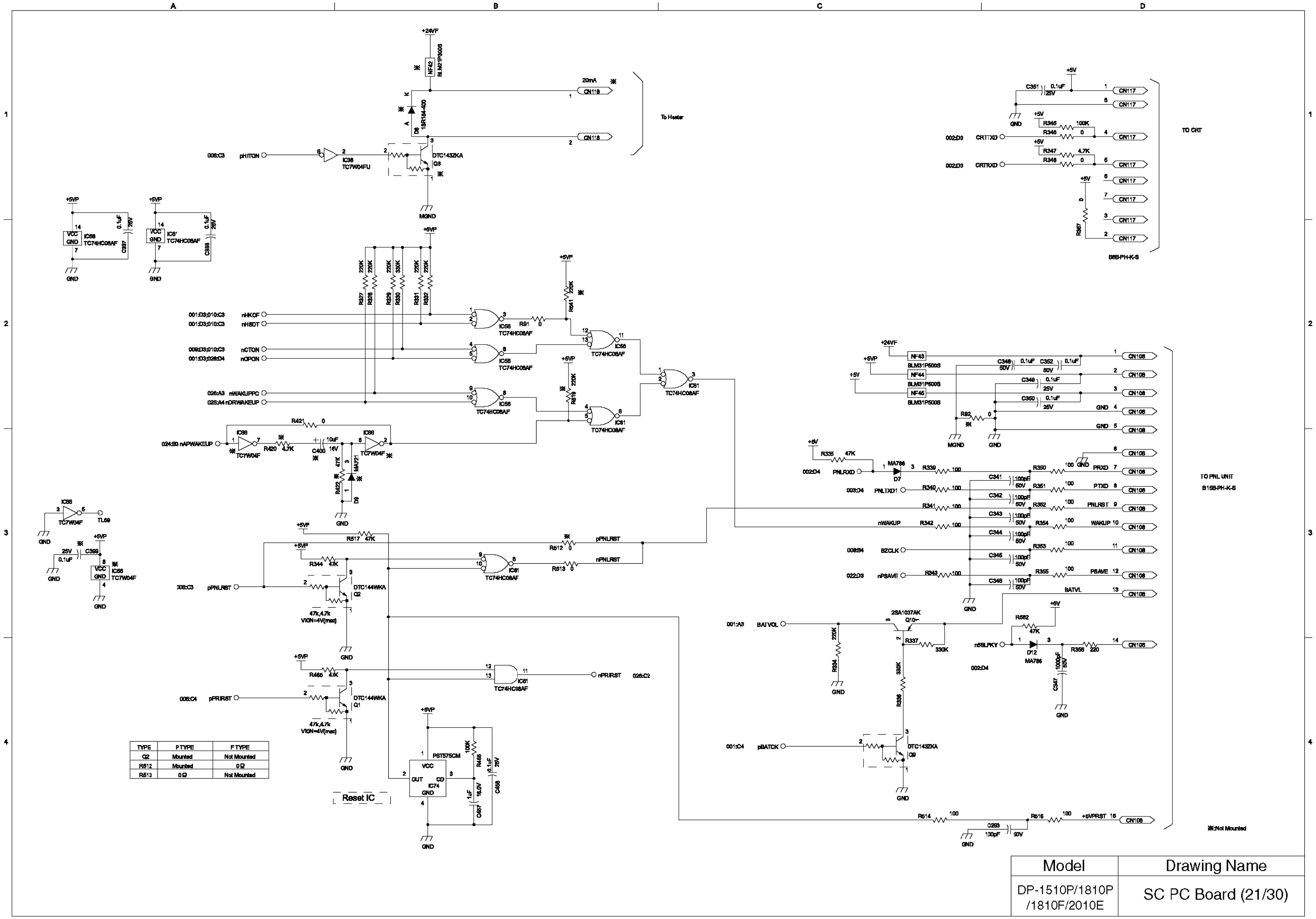

Super PYXION
MN86076
IC51
Drawing Name
SC PC Board (18/30)
Model
DP-1510P/1810P
/1810F/2010E
※Not Mounted
GND
+3.3V
+2.5V
+5V
D[0]-[15]
TCTWU04F
X7
SMD-49 37.000MHz
PLL Disable:MDO=L
PLL Enable:MDO=H


A
B
C
D
1
2
3
4
020:B1
VOUT1
R295 470
R307 100
+12V
2SC2295
Q8
220
R311 820
C301 0.1uF 16V
JP24
C302 0.1uF 16V
JP25 ※
020:B1
VOUT2
R296 470
R302 1K
R303 1K
R306 100
Q7 2SC2295
220
R312 820
C303 0.1uF 16V
JP23
C304 0.1uF 16V
JP26 ※
C305 0.1uF 16V
C306 0.1uF 16V
C307 0.1uF 16V
C308 0.1uF 16V
AGND
+5V
NF6 BLM21P300S
NF7 BLM21P300S
NF8 BLM21P300S
C309 10uF 6.3V
C225 10uF 6.3V
C231 10uF 6.3V
C310 0.1uF 25V 47pin
C311 0.1uF 25V 11pin
C312 0.1uF 25V 26pin
C313 0.1uF 25V 36pin
C314 0.1uF 25V 45pin
IC54
AN2190FHQ
VCC
MONITOR_VCC
CCDOUT_In3_ODD
CCDOUT_In4
COA_DC_ODD
CDS_ODD
DAC_CH3
DAC_CH4
VCA_DC_ODD
CCDOUT_In1_EVEN
CCDOUT_In2
COA_DC_EVEN
CDS_EVEN
DAC_CH1
DAC_CH2
VCA_DC_EVEN
NC
MONITOR_GND
DAC_VSS
GND
CPA_pulse_In
CPB_pulse_In
CP2_pulse_In
DS1_pulse_In
DS2_pulse_In
DS3_pulse_In
ODD/EVEN_SW
VDD
VREFH
VREFM
VREFB
A/DOUT
VCAOUT_ODD
VCAOUT_EVEN
DAC_DATAOUT
LD_IN
CLK_IN
DATA_IN
+3.3V
R520 10K ※
LCP
DS1
DS2
DS3
ODD_EVEN_SW
LDIN
CLKIN
DATAIN
C315 1uF 16V ※
C316 10.0uF 16.0V
C317 1uF 16V ※
C318 10.0uF 16.0V
C319 1uF 16V ※
C320 10.0uF 16.0V
C321 1uF 16V ※
C322 10.0uF 16.0V
C323 0.1uF 25V
C324 0.1uF 25V
C325 0.1uF 25V
C326 0.1uF 25V
C327 0.1uF 25V
ADGND
CLKIN,DATAIN,DS1,DS2,DS3,LCP,LDIN,ODD_EVEN_SW
MA721
D4 ※
NF40 BLM21P300S
NF41 BLM21P300S
C328 10uF 6.3V
C329 0.1uF 25V
C330 0.1uF 25V
C331 0.1uF 25V
C332 10uF 6.3V
C333 0.1uF 25V
C334 0.1uF 25V
C335 0.1uF 25V
C336 0.1uF 25V
GND
IC55
AN8133FHQ
AVDD
DVDD
VRT
VR1
VR2
VR3
VRB
VIN
POWD
D0
D1
D2
D3
D4
D5
D6
D7
D8
D9
CLK
AVSS
DVSS
R314 33
R315 33
R316 33
R317 33
R318 33
R319 33
R320 33
R321 33
R322 33
R323 33
SPYAD[1] 016:A2
SPYAD[2] 016:A2
SPYAD[3] 016:A2
SPYAD[4] 016:A2
SPYAD[5] 016:A2
SPYAD[6] 016:A2
SPYAD[7] 016:A2
SPYAD[8] 016:A3
SPYAD[9] 016:A3
SPYAD[10] 016:A3
SPYADCK 016:A3
LCP 016:A3
DS1 016:A4
DS2 016:A4
DS3 016:A4
ODD_EVEN_SW016:A4
LDIN 016:A4
CLKIN 016:A4
DATAIN 016:A4
R559 0 ※
R313 0

Model	Drawing Name
DP-1510P/1810P /1810F/2010E	SC PC Board (19/30)

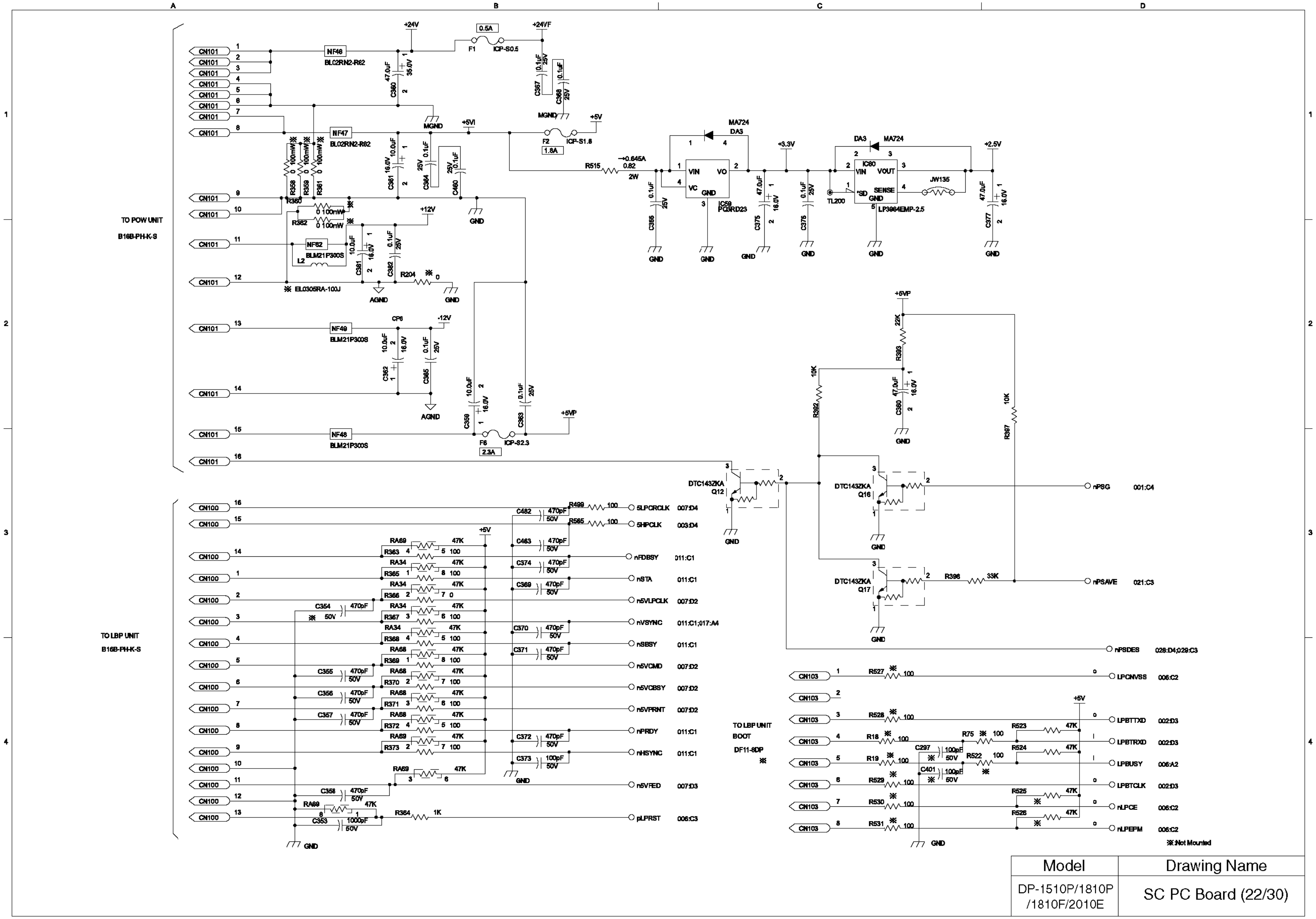

A
B
C
D
1
2
3
4
+12V
NF61
BLM21P300S
25V
0.1uF
C246
1
2
10.0uF
C256
16.0V
0
R325
GND
AGND
CN106
+12V
AGND
AGND
AGND
AGND
AGND
TO CCD
B8B-PH-K-M
019:A3
VOUT2
VOUT2
019:A2
VOUT1
VOUT1
+5V
NF37
BLM21P300S
C296
C284
CN120
+5V
GND
GND
018:A4
FSH
R300
FSH
018:A4;020:A4
FR
-0-
R301
BLM11B750S
R269
NF59
PLP3216S551SL2
R285
pPHYR
nPHYR
TO CCD
B12B-PH-K-S
FCP
R299
R267
NF58
R268
pPHYCP
nPHYCP
FCK1
R297
R265
NF57
R266
pPHY1
nPHY1
FCK2
R298
R253
NF56
R263
pPHY2
nPHY2
(0Ω)
BLM21B102S
NF55
IC58
DS90C031BTM
VCC
GND
C244
25V
0.1uF
C245
50V
0.01uF
EN
*EN
018:A4;020:C4
018:A4;020:C3
018:A4;020:C3
018:A4;020:C2
DIN1
DIN2
DIN3
DIN4
DOUT1+
DOUT1-
DOUT2+
DOUT2-
DOUT3+
DOUT3-
DOUT4+
DOUT4-
※:Not Mounted

Model	Drawing Name
DP-1510P/1810P /1810F/2010E	SC PC Board (20/30)

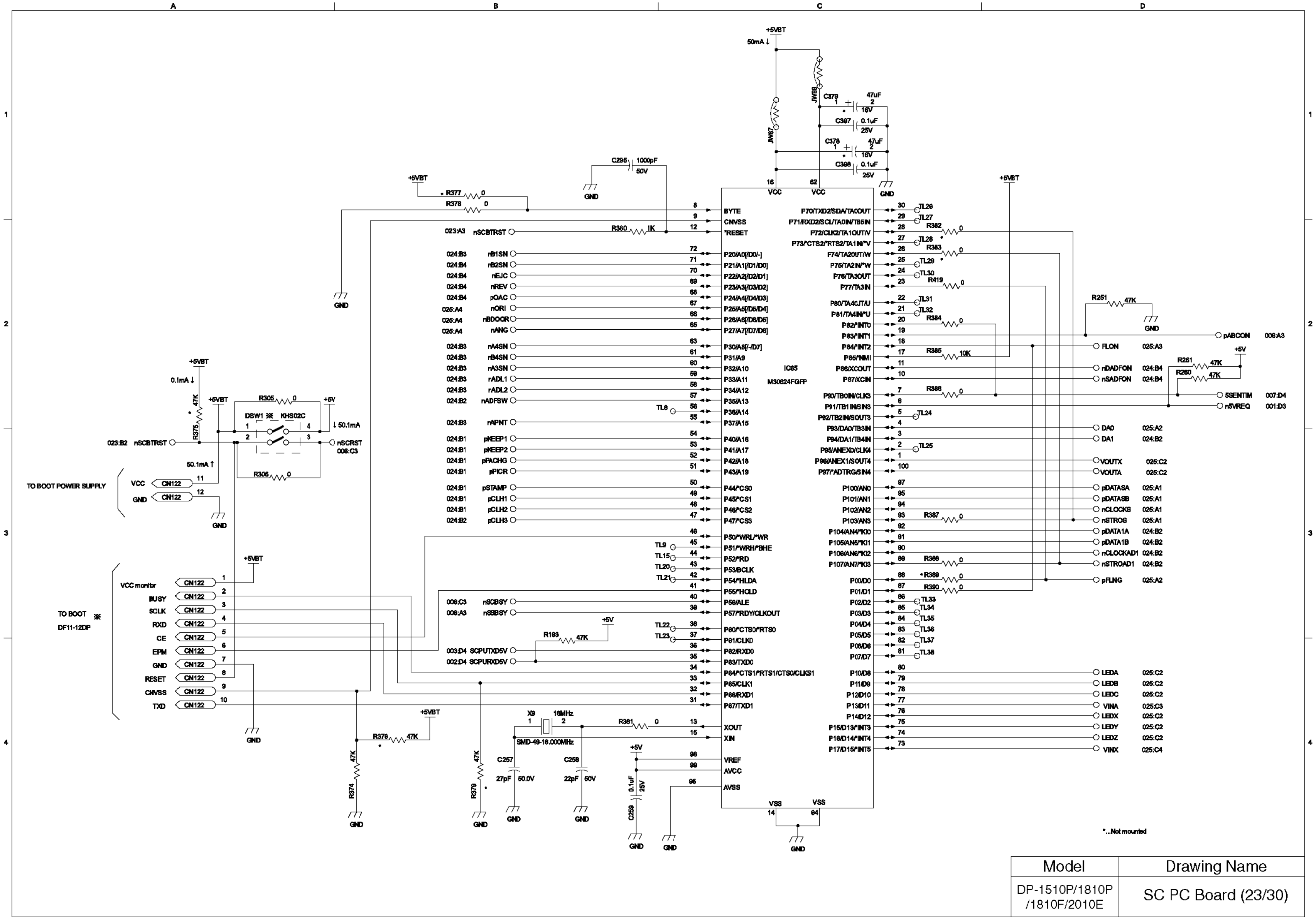

A
B
C
D
1
2
3
4
+24VF
NF42
BLM21P300S
1SR154-400
D6
K
A
20mA
CN118
To Heater
006:C3
pHITON
IC36
TC7W04FU
DTC143ZKA
Q8
MGND
+5VP
IC56
TC74HC08AF
IC61
0.1uF
25V
C387
C388
VCC
GND
R327
R328
R329
R330
R331
R332
220K
330K
001:D3;010:C3
nHKOF
nHSDT
009:D3;010:C3
nCTON
001:D3;026:D4
nOPON
025:A3
nWAKUPPC
025:A4
nDRWAKEUP
R91
R541
R519
220K
R421
024:B3
nAPWAKEUP
TC7W04F
R420
4.7K
C400
10uF
16V
R422
47K
MA721
D9
IC36
TL69
C399
R517
R344
47K
006:C3
pPNLRST
DTC144WKA
Q2
47k,4.7k
VION=4V(max)
R512
R513
pPNLRST
nPNLRST
R465
006:C4
pPRIRST
Q1
nPRIRST
026:C2
PST575CM
IC74
OUT
CD
R488
100K
C456
C457
1uF
16.0V
Reset IC
+5V
C351
CN117
R345
R346
100K
R347
R348
4.7K
002:D3
CRTTXD
CRTRXD
R367
B8B-PH-K-S
TO CRT
NF43
NF44
NF45
BLM31P500S
C348
C352
C349
C350
50V
R92
MGND
GND
CN108
R335
PNLRXD
002:D4
MA786
D7
R339
R340
R341
R342
R343
100
003:D4
PNLTXD1
nWAKUP
008:B4
BZCLK
022:D3
nPSAVE
C341
C342
C343
C344
C345
C346
100pF
R350
R351
R352
R353
R354
R355
PRXD
PTXD
PNLRST
WAKUP
PSAVE
BATVL
TO PNL UNIT
B15B-PH-K-S
001:A3
BATVOL
2SA1037AK
Q10
R334
R337
330K
R336
R552
nSSLPKY
D12
R356
220
C347
1000pF
001:C4
pBATCK
DTC143ZKA
Q9
R514
R516
C293
100pF
+5VPRST
※:Not Mounted

TYPE	P TYPE	F TYPE
Q2	Mounted	Not Mounted
R512	Mounted	0Ω
R513	0Ω	Not Mounted

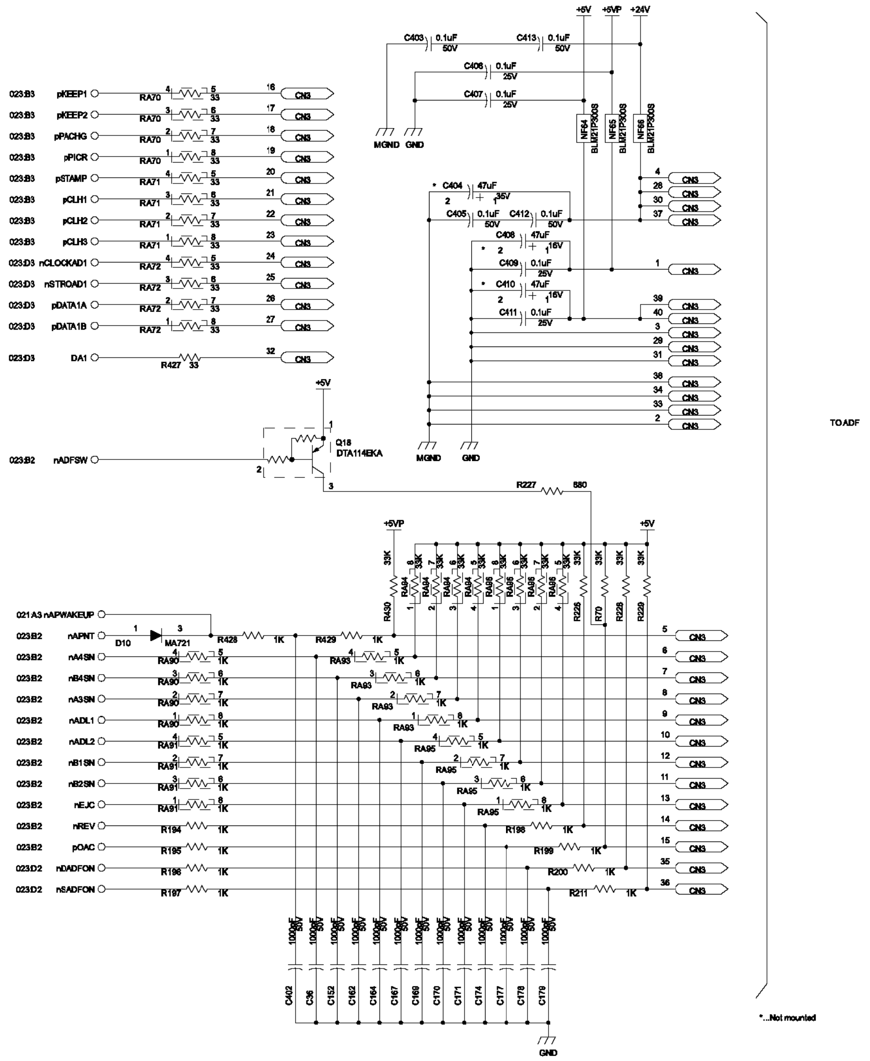
Model	Drawing Name
DP-1510P/1810P /1810F/2010E	SC PC Board (21/30)


TO POW UNIT
B16B-PH-K-S
CN101
NF46
BLC2RN2-R62
NF47
BL02RN2-R62
NF62
BLM21P300S
L2
EL0305RA-100J
NF49
BLM21P300S
NF48
BLM21P300S
+24V
+24VF
F1
ICP-S0.5
0.5A
MGND
+5VI
+5V
F2
ICP-S1.8
1.8A
F6
ICP-S2.3
2.3A
+5VP
+12V
-12V
AGND
GND
CP6
R515
0.82
2W
→0.645A
MA724
DA3
IC59
PQ3RD23
VIN
VO
VC
+3.3V
IC60
VOUT
SENSE
*SD
TL200
LP3964EMP-2.5
JW135
+2.5V
TO LBP UNIT
B16B-PH-K-S
CN100
5LPCRCLK 007:D4
5HPCLK 003:D4
nFDBSY 011:C1
nSTA 011:C1
n5VLPCLK 007:D2
nVSYNC 011:C1;017:A4
nSBSY 011:C1
n5VCMD 007:D2
n5VCBSY 007:D2
n5VPRNT 007:D2
nPRDY 011:C1
nHSYNC 011:C1
n5VFED 007:D3
pLPRST 006:C3
DTC143ZKA
Q12
Q16
Q17
nPSG 001:C4
nPSAVE 021:C3
nPSDES 028:D4;029:C3
TO LBP UNIT
BOOT
DF11-8DP
CN103
LPCNVSS 006:C2
LPBTTXD 002:D3
LPBTRXD 002:D3
LPBUSY 006:A2
LPBTCLK 002:D3
nLPCE 006:C2
nLPEPM 006:C2
※:Not Mounted

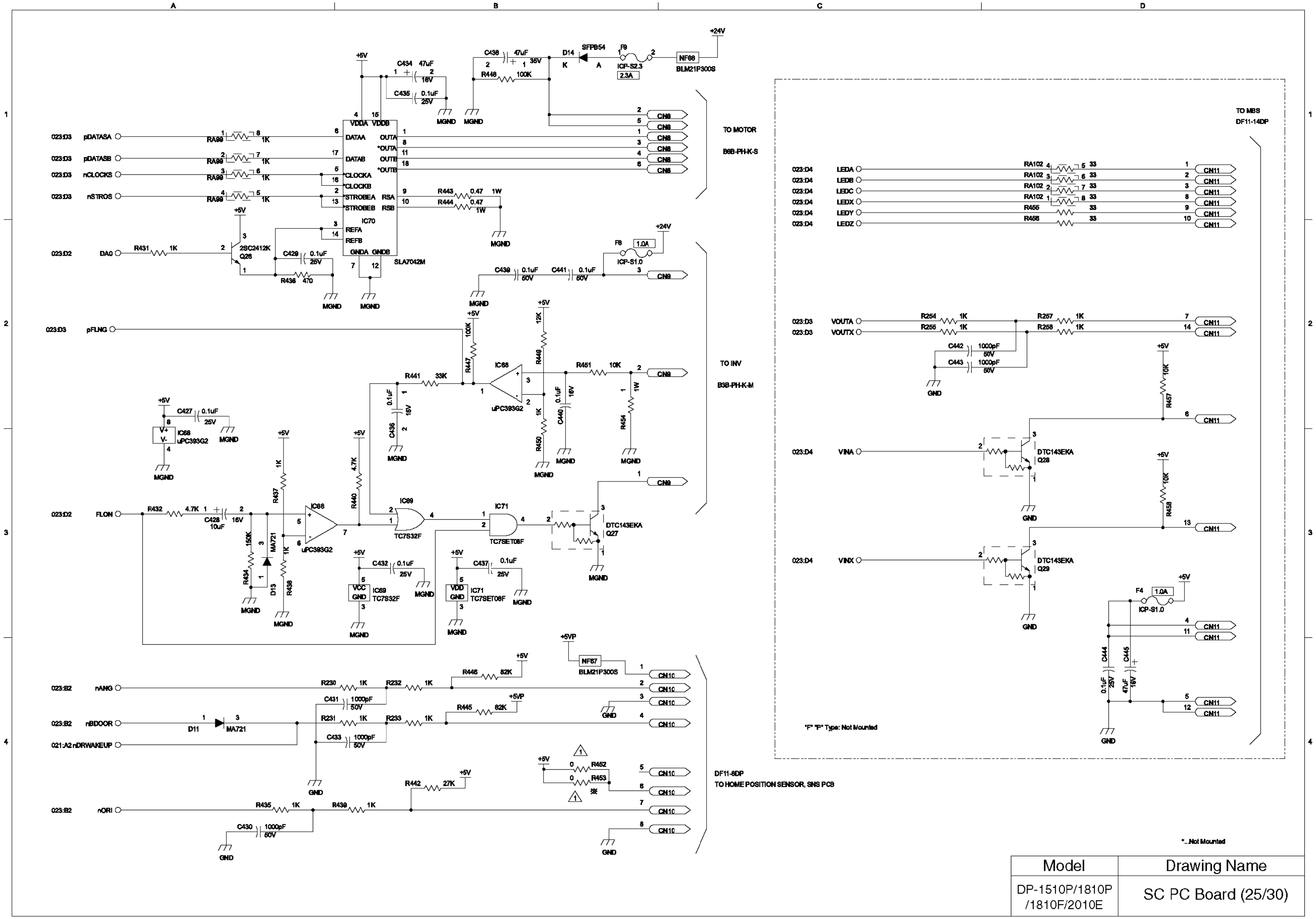
Model	Drawing Name
DP-1510P/1810P /1810F/2010E	SC PC Board (22/30)


A
B
C
D
1
2
3
4
+5VBT
50mA ↓
JW87
JW88
C379
47uF
16V
C397
0.1uF
25V
C378
47uF
16V
C398
0.1uF
25V
GND
C295
1000pF
50V
R377
0
R378
0
R380
1K
023:A3
nSCBTRST
IC65
M30624FGFP
VCC
VCC
16
62
8 BYTE
9 CNVSS
12 *RESET
72 P20/A0[/D0/-]
71 P21/A1[/D1/D0]
70 P22/A2[/D2/D1]
69 P23/A3[/D3/D2]
68 P24/A4[/D4/D3]
67 P25/A5[/D5/D4]
66 P26/A6[/D6/D5]
65 P27/A7[/D7/D6]
63 P30/A8[/-/D7]
61 P31/A9
60 P32/A10
59 P33/A11
58 P34/A12
57 P35/A13
56 P36/A14
55 P37/A15
54 P40/A16
53 P41/A17
52 P42/A18
51 P43/A19
50 P44/*CS0
49 P45/*CS1
48 P46/*CS2
47 P47/*CS3
46 P50/*WRL/*WR
45 P51/*WRH/*BHE
44 P52/*RD
43 P53/BCLK
42 P54/*HLDA
41 P55/*HOLD
40 P56/ALE
39 P57/*RDY/CLKOUT
38 P60/*CTS0/*RTS0
37 P61/CLK0
36 P62/RXD0
35 P63/TXD0
34 P64/*CTS1/*RTS1/CTS0/CLKS1
33 P65/CLK1
32 P66/RXD1
31 P67/TXD1
13 XOUT
15 XIN
98 VREF
99 AVCC
96 AVSS
VSS 14
VSS 64
30 P70/TXD2/SDA/TA0OUT
29 P71/RXD2/SCL/TA0IN/TB5IN
28 P72/CLK2/TA1OUT/V
27 P73/*CTS2/*RTS2/TA1IN/*V
26 P74/TA2OUT/W
25 P75/TA2IN/*W
24 P76/TA3OUT
23 P77/TA3IN
22 P80/TA4OUT/U
21 P81/TA4IN/*U
20 P82/*INT0
19 P83/*INT1
18 P84/*INT2
17 P85/*NMI
11 P86/XCOUT
10 P87/XCIN
7 P90/TB0IN/CLK3
6 P91/TB1IN/SIN3
5 P92/TB2IN/SOUT3
4 P93/DA0/TB3IN
3 P94/DA1/TB4IN
2 P95/ANEX0/CLK4
1 P96/ANEX1/SOUT4
100 P97/*ADTRG/SIN4
97 P100/AN0
95 P101/AN1
94 P102/AN2
93 P103/AN3
92 P104/AN4/*KI0
91 P105/AN5/*KI1
90 P106/AN6/*KI2
89 P107/AN7/*KI3
88 P00/D0
87 P01/D1
86 P02/D2
85 P03/D3
84 P04/D4
83 P05/D5
82 P06/D6
81 P07/D7
80 P10/D8
79 P11/D9
78 P12/D10
77 P13/D11
76 P14/D12
75 P15/D13/*INT3
74 P16/D14/*INT4
73 P17/D15/*INT5
024:B3 nB1SN
024:B4 nB2SN
024:B4 nEJC
024:B4 nREV
024:B4 pOAC
025:A4 nORI
025:A4 nBDOOR
025:A4 nANG
024:B3 nA4SN
024:B3 nB4SN
024:B3 nASSN
024:B3 nADL1
024:B3 nADL2
024:B2 nADFSW
024:B3 nAPNT
024:B1 pKEEP1
024:B1 pKEEP2
024:B1 pPACHG
024:B1 pPICR
024:B1 pSTAMP
024:B1 pCLH1
024:B1 pCLH2
024:B2 pCLH3
TL8
TL9
TL15
TL20
TL21
TL22
TL23
006:C3 nSCBSY
006:A3 nSBBSY
+5V
R193
47K
003:D4 SCPUTXD5V
002:D4 SCPURXD5V
X9
16MHz
SMD-49-16.000MHz
R381
0
C257
27pF
50.0V
C258
22pF
50V
C259
0.1uF
25V
R374
47K
R376
47K
R379
47K
TL26
TL27
R382
0
TL28
R383
0
TL29
TL30
R419
0
TL31
TL32
R384
0
R385
10K
R386
0
TL24
TL25
R387
0
R388
0
*R389
0
R390
0
TL33
TL34
TL35
TL36
TL37
TL38
R251
47K
pABCON 006:A3
FLON 025:A3
R261
47K
R260
47K
nDADFON 024:B4
nSADFON 024:B4
5SENTIM 007:D4
n5VREQ 001:D3
DA0 025:A2
DA1 024:B2
VOUTX 025:C2
VOUTA 025:C2
pDATASA 025:A1
pDATASB 025:A1
nCLOCKS 025:A1
nSTROS 025:A1
pDATA1A 024:B2
pDATA1B 024:B2
nCLOCKAD1 024:B2
nSTROAD1 024:B2
pFLNG 025:A2
LEDA 025:C2
LEDB 025:C2
LEDC 025:C2
VINA 025:C3
LEDX 025:C2
LEDY 025:C2
LEDZ 025:C2
VINX 025:C4
+5VBT
0.1mA ↓
R375
47K
023:B2 nSCBTRST
+5VBT
R305
0
+5V
DSW1 ※ KHS02C
↓ 50.1mA
nSCRST
006:C3
R306
0
50.1mA ↑
TO BOOT POWER SUPPLY
VCC CN122 11
GND CN122 12
TO BOOT ※
DF11-12DP
VCC monitor CN122 1
BUSY CN122 2
SCLK CN122 3
RXD CN122 4
CE CN122 5
EPM CN122 6
GND CN122 7
RESET CN122 8
CNVSS CN122 9
TXD CN122 10
*...Not mounted

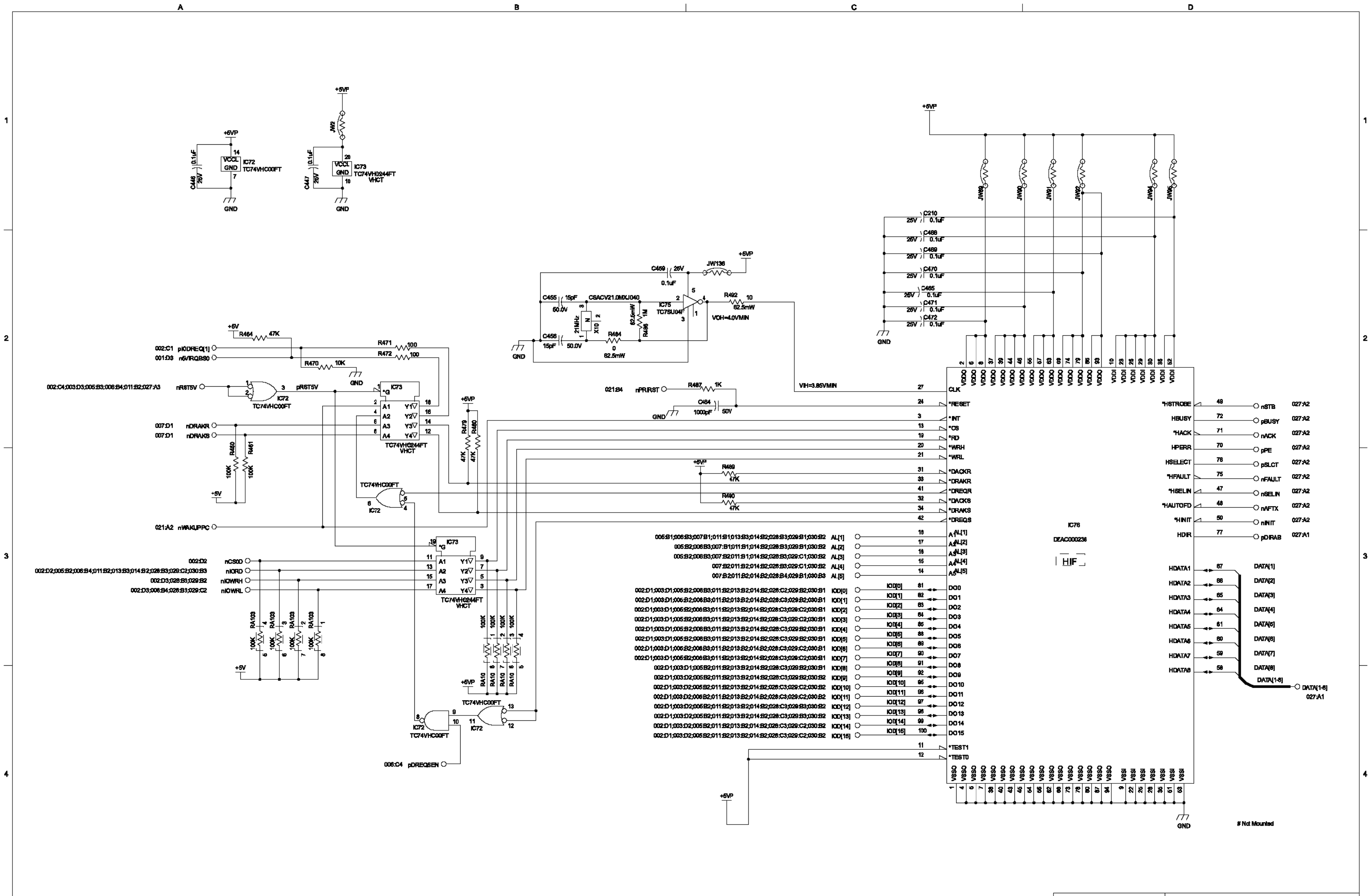
Model	Drawing Name
DP-1510P/1810P /1810F/2010E	SC PC Board (23/30)


023:B3 pKEEP1
023:B3 pKEEP2
023:B3 pPACHG
023:B3 pPICR
023:B3 pSTAMP
023:B3 pCLH1
023:B3 pCLH2
023:B3 pCLH3
023:D3 nCLOCKAD1
023:D3 nSTROAD1
023:D3 pDATA1A
023:D3 pDATA1B
023:D3 DA1
RA70
RA71
RA72
R427 33
CN3
Q18
DTA114EKA
+5V
023:B2 nADFSW
R227 680
+5V +5VP +24V
C403 0.1uF 50V
C413 0.1uF 50V
C406 0.1uF 25V
C407 0.1uF 25V
NF64 NF65 NF66
BLM21P300S
MGND GND
C404 47uF 35V
C405 0.1uF 50V
C412 0.1uF 50V
C408 47uF 16V
C409 0.1uF 25V
C410 47uF 16V
C411 0.1uF 25V
TO ADF
021:A3 nAPWAKEUP
023:B2 nAPNT
023:B2 nA4SN
023:B2 nB4SN
023:B2 nA3SN
023:B2 nADL1
023:B2 nADL2
023:B2 nB1SN
023:B2 nB2SN
023:B2 nEJC
023:B2 nREV
023:B2 pOAC
023:D2 nDADFON
023:D2 nSADFON
D10 MA721
R428 1K
R429 1K
RA90 RA91 RA93 RA95
R194 R195 R196 R197 1K
R198 R199 R200 R211 1K
+5VP +5V
R430 RA84 RA86 R225 R70 R226 R229 33K
1000pF 50V
C402 C36 C152 C162 C164 C167 C169 C170 C171 C174 C177 C178 C179
GND
*...Not mounted

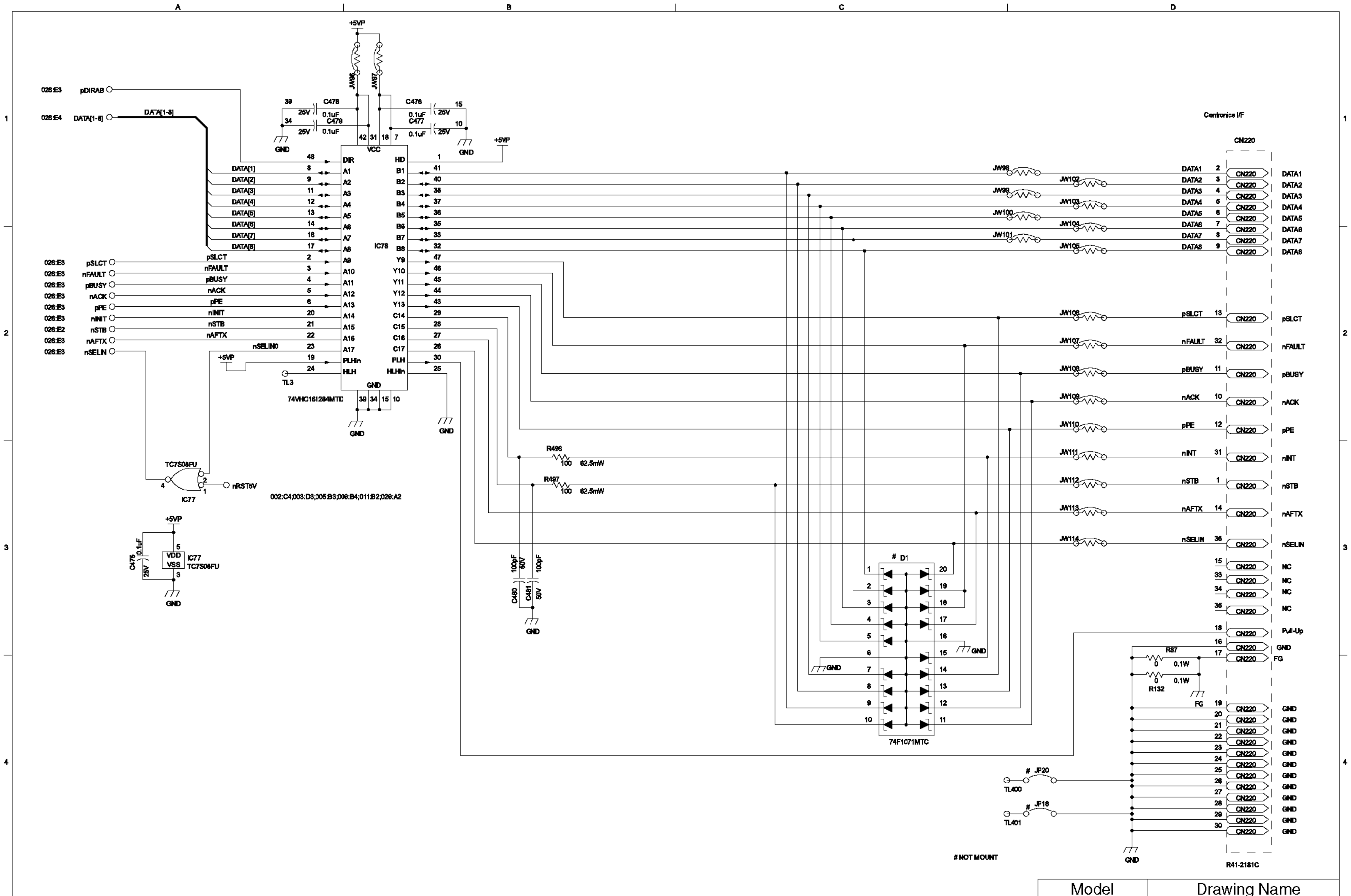
Model	Drawing Name
DP-1510P/1810P /1810F/2010E	SC PC Board (24/30)


A
B
C
D
1
2
3
4
023:D3 pDATASA
023:D3 pDATASB
023:D3 nCLOCKS
023:D3 nSTROS
023:D2 DA0
023:D3 pFLNG
023:D2 FLON
023:B2 nANG
023:B2 nBDOOR
021:A2 nDRWAKEUP
023:B2 nORI
RA99 1K
R431 1K
2SC2412K Q26
C429 0.1uF 25V
R436 470
IC70 SLA7042M
VDDA VDDB DATAA DATAB *CLOCKA *CLOCKB *STROBEA *STROBEB REFA REFB GNDA GNDB OUTA *OUTA OUTB *OUTB RSA RSB
C434 47uF 16V
C435 0.1uF 25V
C438 47uF 35V
R448 100K
D14 SFPB54
F9 ICP-S2.3 2.3A
NF68 BLM21P300S
+24V
+5V
MGND
GND
R443 0.47 1W
R444 0.47 1W
CN8
TO MOTOR
B6B-PH-K-S
F8 1.0A ICP-S1.0
C439 0.1uF 50V
C441 0.1uF 50V
CN9
TO INV
B3B-PH-K-M
R447 100K
R441 33K
C436 0.1uF 16V
IC68 uPC393G2
R449 12K
R450 1K
C440 0.1uF 16V
R451 10K
R454 1W
C427 0.1uF 25V
R432 4.7K
C428 10uF 16V
R434 150K
D13 MA721
R437 1K
R438 1K
R440 4.7K
IC69 TC7S32F
IC71 TC7SET08F
C432 0.1uF 25V
C437 0.1uF 25V
DTC143EKA Q27
+5VP
NF67 BLM21P300S
R230 1K
R232 1K
R446 82K
C431 1000pF 50V
D11 MA721
R231 1K
R233 1K
R445 82K
C433 1000pF 50V
R452 0
R453 0 ※
R442 27K
R435 1K
R439 1K
C430 1000pF 50V
CN10
DF11-8DP
TO HOME POSITION SENSOR, SNS PCB
TO MBS
DF11-14DP
023:D4 LEDA
023:D4 LEDB
023:D4 LEDC
023:D4 LEDX
023:D4 LEDY
023:D4 LEDZ
RA102 33
R455 33
R456 33
CN11
023:D3 VOUTA
023:D3 VOUTX
R254 1K
R255 1K
R257 1K
R258 1K
C442 1000pF 50V
C443 1000pF 50V
R457 10K
023:D4 VINA
DTC143EKA Q28
R458 10K
023:D4 VINX
DTC143EKA Q29
F4 1.0A ICP-S1.0
C444 0.1uF 25V
C445 47uF 16V
"F" "P" Type: Not Mounted
*...Not Mounted

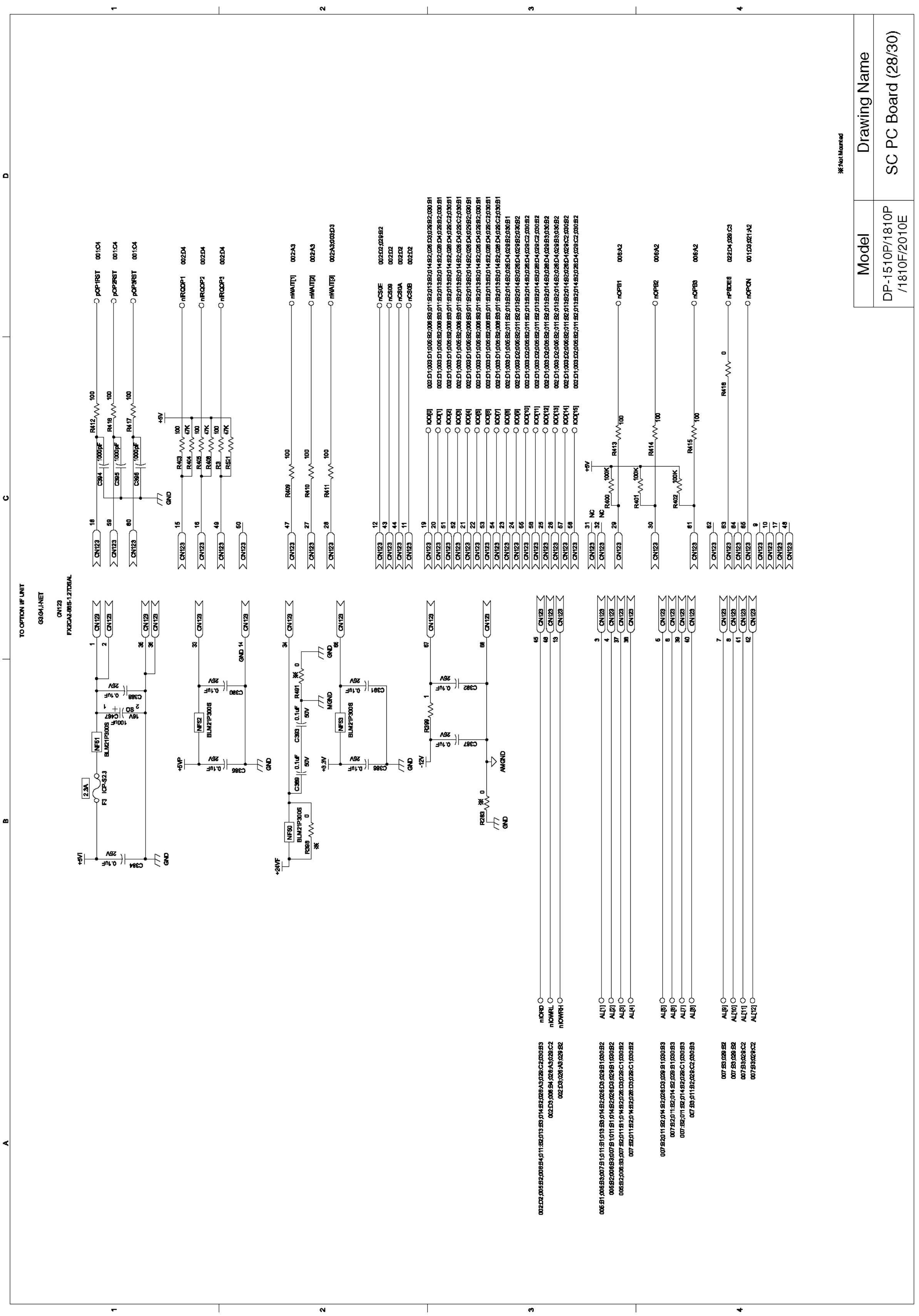
Model	Drawing Name
DP-1510P/1810P /1810F/2010E	SC PC Board (25/30)


A
B
C
D
1
2
3
4
+5VP
IC72
TC74VHC00FT
VCCL
GND
14
7
C446
0.1uF
25V
GND
JW2
IC73
TC74VHC244FT
VHCT
20
10
C447
C455
15pF
50.0V
C456
CSACV21.0MXJ040
21MHz
X10
R484
0
62.5mW
R486
1M
C459
0.1uF
25V
JW136
IC75
TC7SU04F
R492
10
62.5mW
VOH=4.0VMIN
VIH=3.85VMIN
+5V
R464
47K
002:C1 pIODREQ[1]
001:D3 n5VIRQBS0
R471
100
R472
100
R470
10K
GND
002:C4;003:D3;005:B3;006:B4;011:B2;027:A3 nRST5V
pRST5V
007:D1 nDRAKR
007:D1 nDRAKS
R460
R461
100K
021:A2 nWAKUPPC
*G
A1
A2
A3
A4
Y1
Y2
Y3
Y4
R479
R480
47K
002:D2 nCS0D
002:D2;005:B2;006:B4;011:B2;013:B3;014:B2;028:B3;029:C2;030:B3 nIORD
002:D3;028:B3;029:B2 nIOWRH
002:D3;006:B4;028:B3;029:C2 nIOWRL
RA103
RA10
006:C4 pDREQSEN
021:B4 nPRRST
R487
1K
C484
1000pF
50V
R489
R490
C210
C468
C469
C470
C465
C471
C472
JW89
JW90
JW91
JW92
JW94
JW95
IC76
DZAC000236
HIF
VDDO
VDDI
VSSO
VSSI
CLK
*RESET
*INT
*CS
*RD
*WRH
*WRL
*DACKR
*DRAKR
*DREQR
*DACKS
*DRAKS
*DREQS
005:B1;006:B3;007:B1;011:B1;013:B3;014:B2;028:B3;029:B1;030:B2 AL[1]
005:B2;006:B3;007:B1;011:B1;014:B2;028:B3;029:B1;030:B2 AL[2]
005:B2;006:B3;007:B2;011:B1;014:B2;028:B3;029:C1;030:B2 AL[3]
007:B2;011:B2;014:B2;028:B3;029:C1;030:B2 AL[4]
007:B2;011:B2;014:B2;028:B4;029:B1;030:B3 AL[5]
002:D1;003:D1;005:B2;006:B3;011:B2;013:B2;014:B2;028:C2;029:B2;030:B1 IOD[0]
002:D1;003:D1;005:B2;006:B3;011:B2;013:B2;014:B2;028:C3;029:B2;030:B1 IOD[1]
002:D1;003:D1;005:B2;006:B3;011:B2;013:B2;014:B2;028:C3;029:C2;030:B1 IOD[2]
002:D1;003:D1;005:B2;006:B3;011:B2;013:B2;014:B2;028:C3;029:C2;030:B1 IOD[3]
002:D1;003:D1;005:B2;006:B3;011:B2;013:B2;014:B2;028:C3;029:B2;030:B1 IOD[4]
002:D1;003:D1;005:B2;006:B3;011:B2;013:B2;014:B2;028:C3;029:B2;030:B1 IOD[5]
002:D1;003:D1;005:B2;006:B3;011:B2;013:B2;014:B2;028:C3;029:C2;030:B1 IOD[6]
002:D1;003:D1;005:B2;006:B3;011:B2;013:B2;014:B2;028:C3;029:C2;030:B1 IOD[7]
002:D1;003:D1;005:B2;011:B2;013:B2;014:B2;028:C3;029:B2;030:B1 IOD[8]
002:D1;003:D2;005:B2;011:B2;013:B2;014:B2;028:C3;029:B2;030:B2 IOD[9]
002:D1;003:D2;005:B2;011:B2;013:B2;014:B2;028:C3;029:C2;030:B2 IOD[10]
002:D1;003:D2;005:B2;011:B2;013:B2;014:B2;028:C3;029:C2;030:B2 IOD[11]
002:D1;003:D2;005:B2;011:B2;013:B2;014:B2;028:C3;029:B3;030:B2 IOD[12]
002:D1;003:D2;005:B2;011:B2;013:B2;014:B2;028:C3;029:B3;030:B2 IOD[13]
002:D1;003:D2;005:B2;011:B2;013:B2;014:B2;028:C3;029:C2;030:B2 IOD[14]
002:D1;003:D2;005:B2;011:B2;013:B2;014:B2;028:C3;029:C2;030:B2 IOD[15]
DO0
DO1
DO2
DO3
DO4
DO5
DO6
DO7
DO8
DO9
DO10
DO11
DO12
DO13
DO14
DO15
*TEST1
*TEST0
*HSTROBE 49 nSTB 027:A2
HBUSY 72 pBUSY 027:A2
*HACK 71 nACK 027:A2
HPERR 70 pPE 027:A2
HSELECT 76 pSLCT 027:A2
*HFAULT 75 nFAULT 027:A2
*HSELIN 47 nSELIN 027:A2
*HAUTOFD 48 nAFTX 027:A2
*HINIT 50 nINIT 027:A2
HDIR 77 pDIRAB 027:A1
HDATA1 67 DATA[1]
HDATA2 66 DATA[2]
HDATA3 65 DATA[3]
HDATA4 64 DATA[4]
HDATA5 61 DATA[5]
HDATA6 60 DATA[6]
HDATA7 59 DATA[7]
HDATA8 58 DATA[8]
DATA[1-8]
DATA[1-8] 027:A1
GND
# Not Mounted

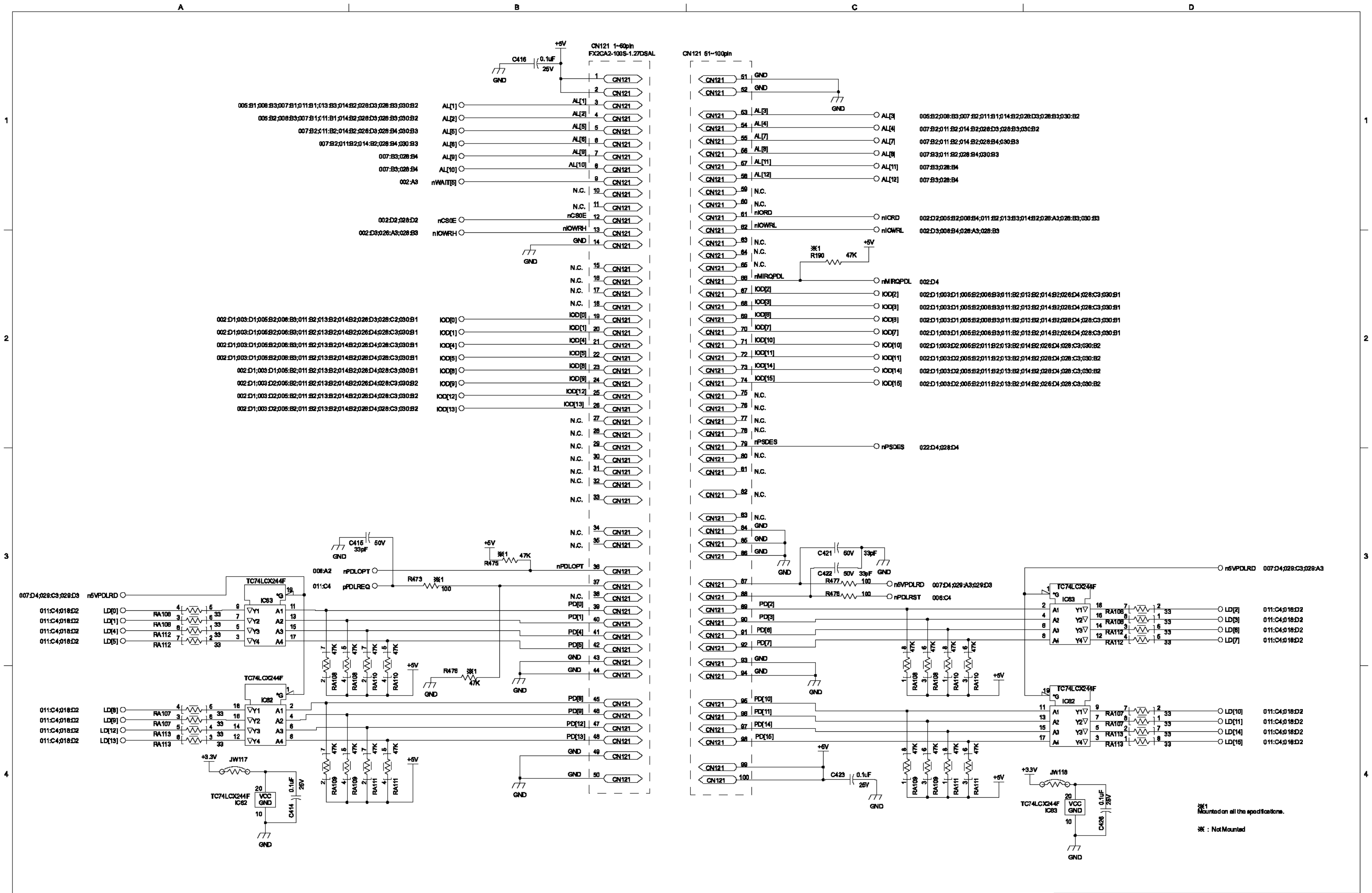
Model	Drawing Name
DP-1510P/1810P /1810F/2010E	SC PC Board (26/30)


A
B
C
D
1
2
3
4
+5VP
JW96
JW97
026:E3 pDIRAB
026:E4 DATA[1-8]
DATA[1-8]
C478
C479
C476
C477
0.1uF
25V
GND
VCC
DIR
HD
IC78
74VHC161284MTD
DATA[1]
DATA[2]
DATA[3]
DATA[4]
DATA[5]
DATA[6]
DATA[7]
DATA[8]
pSLCT
nFAULT
pBUSY
nACK
pPE
nINIT
nSTB
nAFTX
nSELIN0
PLHin
HLH
PLH
HLHin
TL3
TC7S08FU
IC77
nRST5V
002:C4;003:D3;005:B3;008:B4;011:B2;026:A2
C475
VDD
VSS
R496
R497
100
62.5mW
C480
C481
100pF
50V
# D1
74F1071MTC
Centronics I/F
CN220
JW98
JW99
JW100
JW101
JW102
JW103
JW104
JW105
JW106
JW107
JW108
JW109
JW110
JW111
JW112
JW113
JW114
DATA1
DATA2
DATA3
DATA4
DATA5
DATA6
DATA7
DATA8
nINT
nSELIN
NC
Pull-Up
FG
R87
R132
0.1W
# JP20
# JP18
TL400
TL401
# NOT MOUNT
R41-2181C

Model	Drawing Name
DP-1510P/1810P /1810F/2010E	SC PC Board (27/30)


TO OPTION I/F UNIT
G3,G4,I-NET
CN123
FX2CA2-68S-1.27DSAL
+5VI
+5VP
+24VF
+3.3V
-12V
+5V
GND
MGND
AMGND
F3
ICP-S2.3
2.3A
NF51
NF52
NF53
NF50
BLM21P300S
C384
C386
C388
C487
C389
C383
C390
C391
C385
C382
C387
R398
R481
R399
R283
R412
R416
R417
R403
R404
R405
R408
R3
R521
R409
R410
R411
R400
R401
R402
R413
R414
R415
R418
C394
C395
C396
pOP1RST
pOP2RST
pOP3RST
nIRQOP1
nIRQOP2
nIRQOP3
nWAIT[1]
nWAIT[2]
nWAIT[3]
nCS0E
nCS09
nCS0A
nCS0B
IOD[0]
IOD[1]
IOD[2]
IOD[3]
IOD[4]
IOD[5]
IOD[6]
IOD[7]
IOD[8]
IOD[9]
IOD[10]
IOD[11]
IOD[12]
IOD[13]
IOD[14]
IOD[15]
nOPB1
nOPB2
nOPB3
nPBDE8
nOPON
nIORD
nIOWRL
nIOWRH
AL[1]
AL[2]
AL[3]
AL[4]
AL[5]
AL[6]
AL[7]
AL[8]
AL[9]
AL[10]
AL[11]
AL[12]
NC
※Not Mounted
1
2
3
4
A
B
C
D

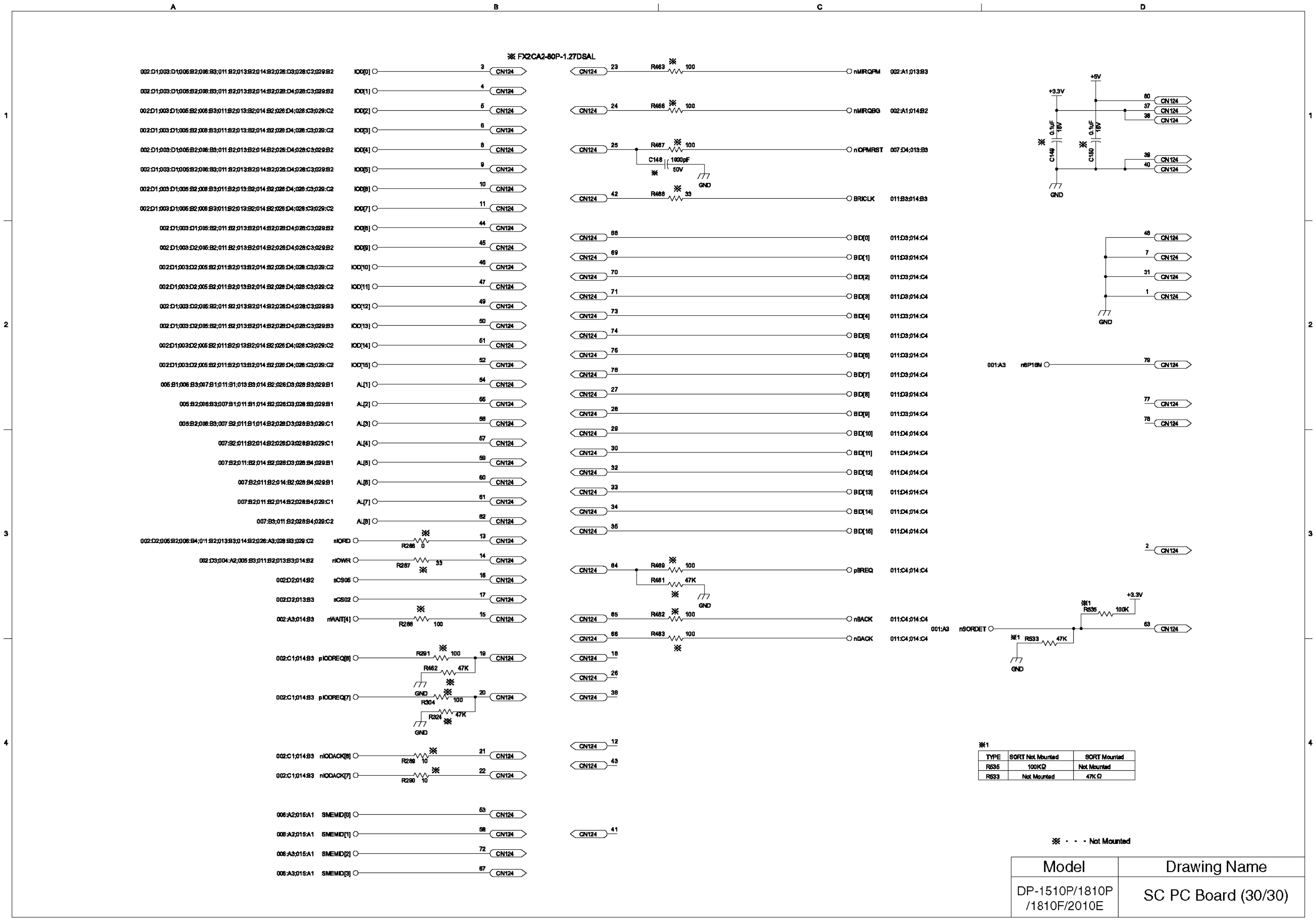
Model	Drawing Name
DP-1510P/1810P /1810F/2010E	SC PC Board (28/30)


CN121 1~60pin
FX2CA2-100S-1.27DSAL
CN121 51~100pin
C416
0.1uF
25V
+5V
GND
AL[1]
AL[2]
AL[5]
AL[6]
AL[9]
AL[10]
nWAIT[6]
nCS0E
nIOWRH
IOD[0]
IOD[1]
IOD[4]
IOD[5]
IOD[8]
IOD[9]
IOD[12]
IOD[13]
N.C.
AL[3]
AL[4]
AL[7]
AL[8]
AL[11]
AL[12]
nIORD
nIOWRL
R190
47K
nMIRQPDL
IOD[2]
IOD[3]
IOD[6]
IOD[7]
IOD[10]
IOD[11]
IOD[14]
IOD[15]
nPSDES
nPDLOPT
pPDLREQ
R473
100
R475
R476
C415
33pF
50V
C421
C422
R477
R478
n5VPDLRD
nPDLRST
PD[0]
PD[1]
PD[4]
PD[5]
PD[8]
PD[9]
PD[12]
PD[13]
PD[2]
PD[3]
PD[6]
PD[7]
PD[10]
PD[11]
PD[14]
PD[15]
TC74LCX244F
IC83
IC82
RA106
RA107
RA108
RA109
RA110
RA111
RA112
RA113
33
LD[0]
LD[1]
LD[4]
LD[5]
LD[8]
LD[9]
LD[12]
LD[13]
LD[2]
LD[3]
LD[6]
LD[7]
LD[10]
LD[11]
LD[14]
LD[15]
+3.3V
JW117
JW118
C414
C426
C423
VCC
GND

※1
Mounted on all the specifications.

※ : Not Mounted

Model	Drawing Name
DP-1510P/1810P /1810F/2010E	SC PC Board (29/30)


※ FX2CA2-80P-1.27DSAL
CN124
IOD[0]
IOD[1]
IOD[2]
IOD[3]
IOD[4]
IOD[5]
IOD[6]
IOD[7]
IOD[8]
IOD[9]
IOD[10]
IOD[11]
IOD[12]
IOD[13]
IOD[14]
IOD[15]
A_[1]
A_[2]
A_[3]
A_[4]
A_[5]
A_[6]
A_[7]
A_[8]
nIORD
nIOWR
nCS05
nCS02
nWAIT[4]
pIODREQ[8]
pIODREQ[7]
nIODACK[8]
nIODACK[7]
SMEMID[0]
SMEMID[1]
SMEMID[2]
SMEMID[3]
R286 0
R287 33
R288 100
R291 100
R462 47K
R304 100
R324 47K
R289 10
R290 10
GND
R463 100
R466 100
R467 100
C148 1000pF 50V
R468 33
R469 100
R461 47K
R482 100
R483 100
nMIRQPM
nMIRQBG
nIOPMRST
BRICLK
BD[0]
BD[1]
BD[2]
BD[3]
BD[4]
BD[5]
BD[6]
BD[7]
BD[8]
BD[9]
BD[10]
BD[11]
BD[12]
BD[13]
BD[14]
BD[15]
pBREQ
nBACK
nDACK
+3.3V
+5V
C149 0.1uF 16V
C150 0.1uF 16V
001:A3 nSP16N
001:A3 nSORDET
※1 R535 100K
※1 R533 47K
A
B
C
D
1
2
3
4

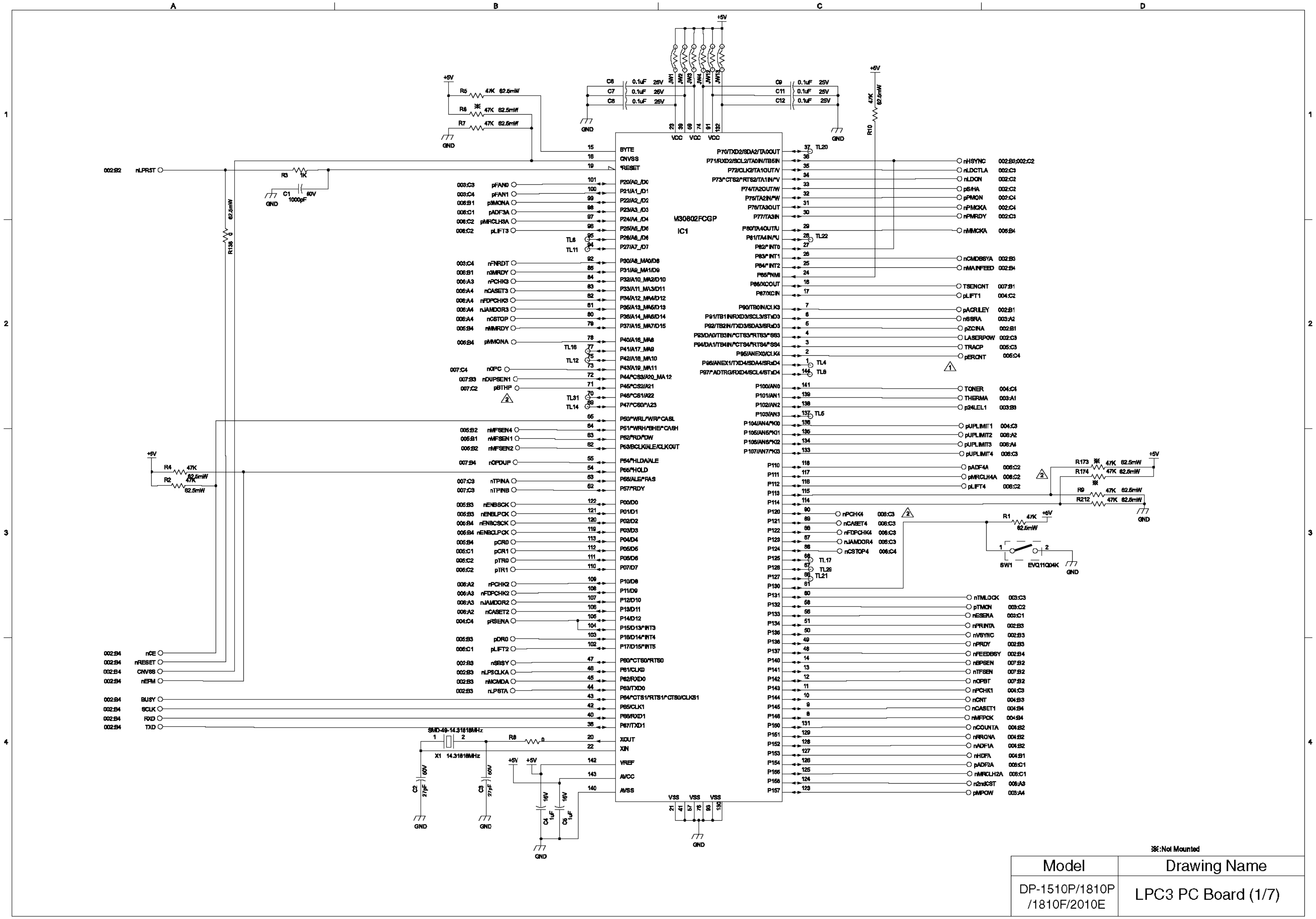
※1

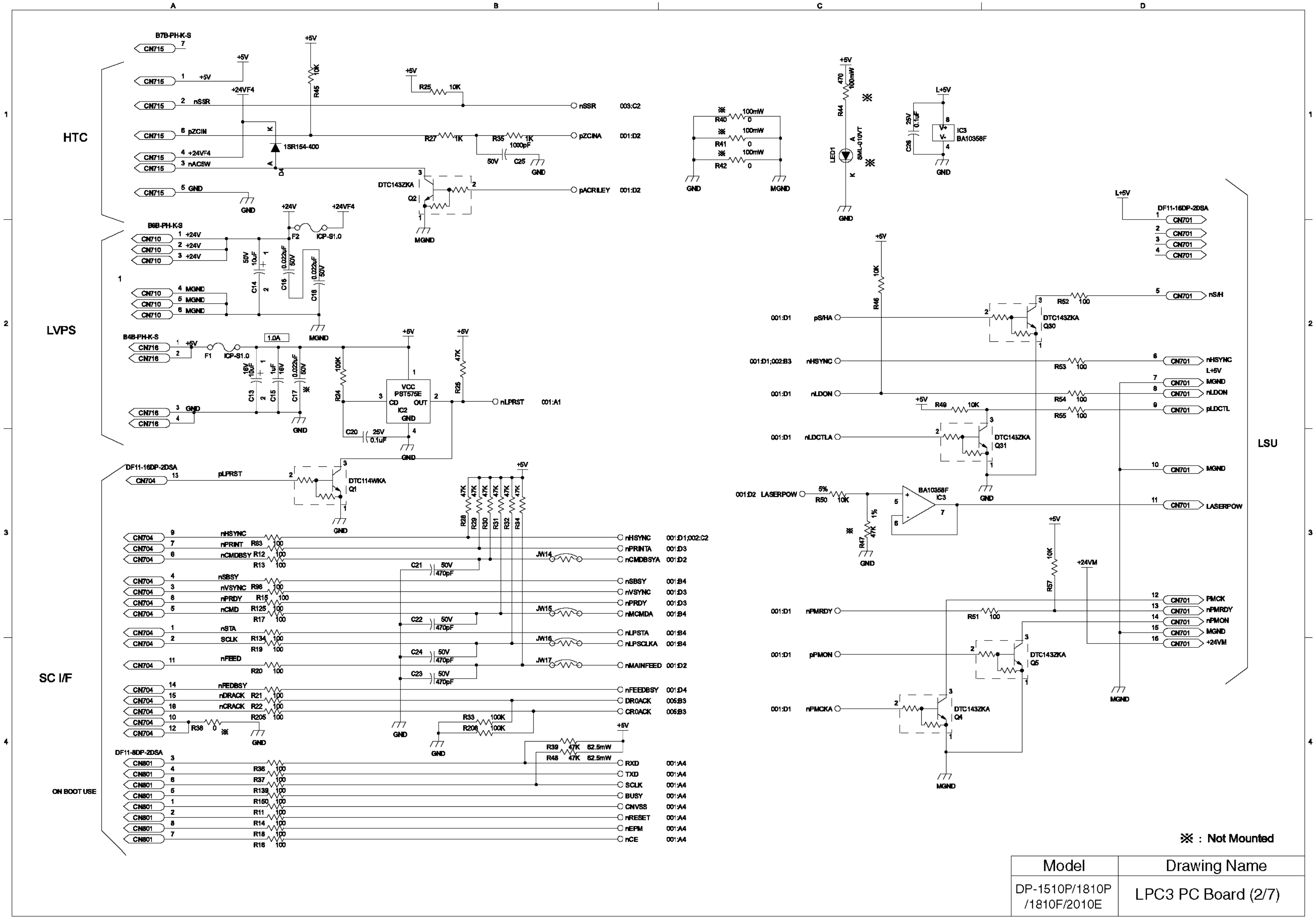
TYPE	SORT Not Mounted	SORT Mounted
R535	100KΩ	Not Mounted
R533	Not Mounted	47KΩ

※ · · · Not Mounted

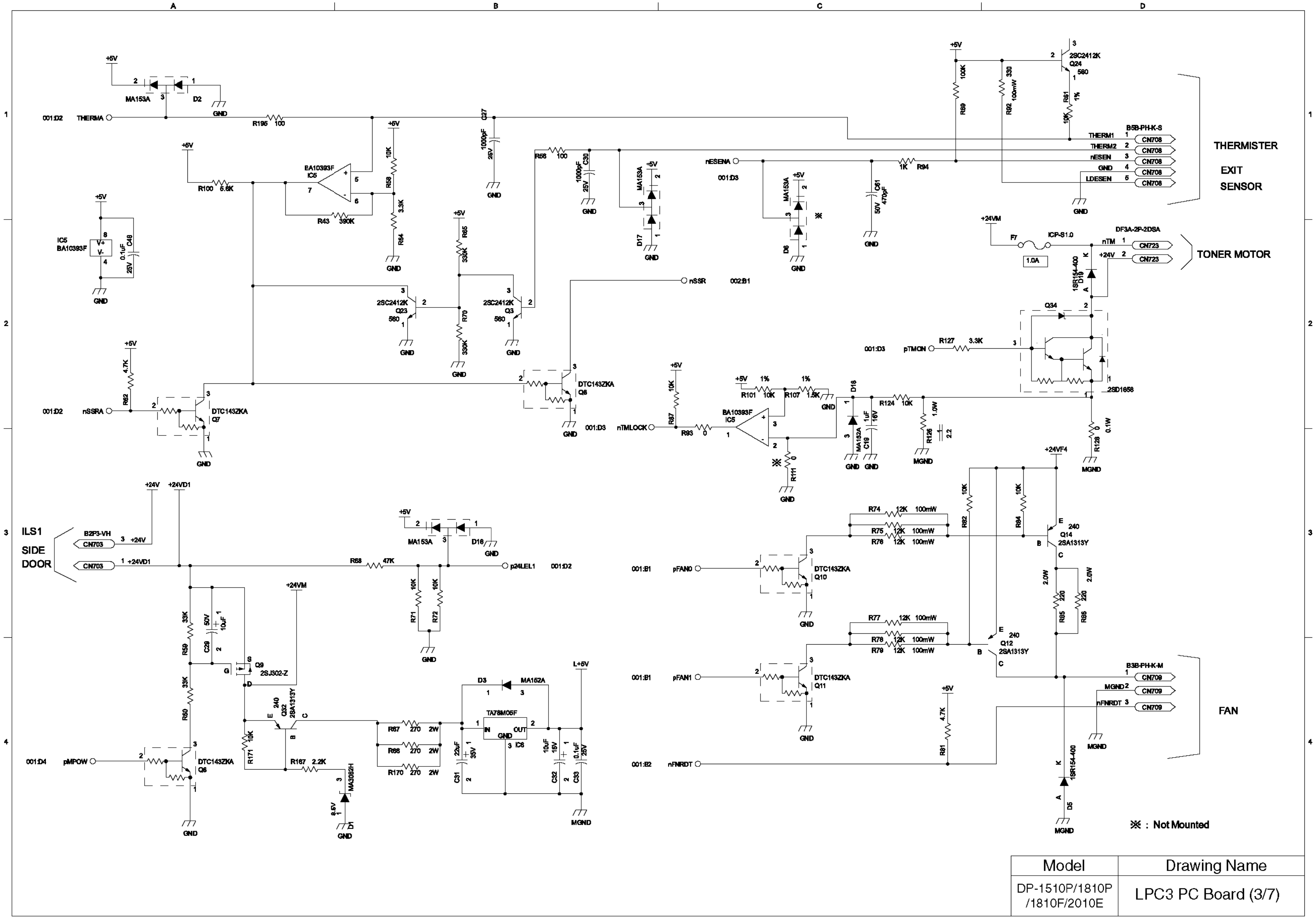
Model	Drawing Name
DP-1510P/1810P /1810F/2010E	SC PC Board (30/30)

9.3. LPC3 PC Board

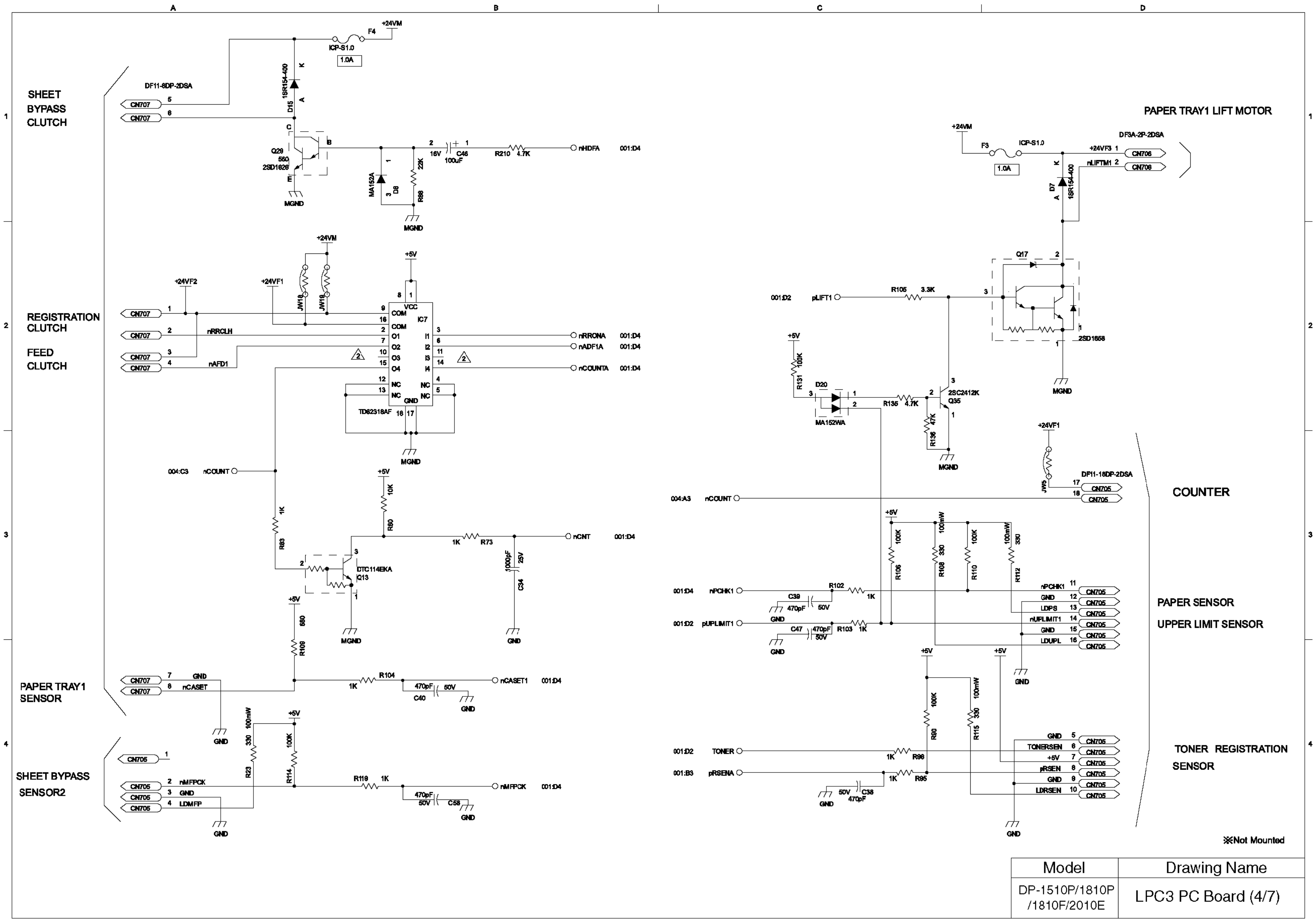

A
B
C
D
1
2
3
4
M30802FCGP
IC1
X1 14.31818MHz
SW1 EVQ11G04K
※:Not Mounted
Model
Drawing Name
DP-1510P/1810P
/1810F/2010E
LPC3 PC Board (1/7)


A
B
C
D
1
2
3
4
HTC
LVPS
SC I/F
ON BOOT USE
LSU
B7B-PH-K-S
CN715
+5V
nSSR
pZCIN
+24VF4
nACSW
GND
1SR154-400
D4
R45 10K
R25 10K
R27 1K
R35 1K
1000pF
C25
50V
DTC143ZKA
Q2
MGND
003:C2
001:D2
pACRILEY
B6B-PH-K-S
CN710
+24V
F2
ICP-S1.0
C14
10uF
C16
0.022uF
C18
B4B-PH-K-S
CN716
F1
1.0A
C13
C15
C17
R24 100K
R26 47K
VCC
PST575E
CD
OUT
IC2
C20
0.1uF
25V
nLPRST
001:A1
DF11-16DP-2DSA
CN704
pLPRST
DTC114WKA
Q1
nHSYNC
nPRINT
nCMDBSY
nSBSY
nVSYNC
nPRDY
nCMD
nSTA
SCLK
nFEED
nFEEDBSY
nDRACK
nCRACK
R63
R12
R13
R96
R15
R125
R17
R134
R19
R20
R21
R22
R205
R38
R28
R29
R30
R31
R32
R34
47K
C21
C22
C24
C23
470pF
JW14
JW15
JW16
JW17
nPRINTA
nCMDBSYA
nMCMDA
nLPSTA
nLPSCLKA
nMAINFEED
DR0ACK
CR0ACK
R33
R208
100K
001:D1;002:C2
001:D3
001:B4
005:B3
001:D4
DF11-8DP-2DSA
CN801
R36
R37
R139
R150
R11
R14
R18
R16
R39
R48
62.5mW
RXD
TXD
BUSY
CNVSS
nRESET
nEPM
nCE
001:A4
R40
R41
R42
100mW
R44
470
LED1
SML-010VT
C26
0.1uF
IC3
BA10358F
L+5V
V+
V-
CN701
DF11-16DP-2DSA
pS/HA
nS/H
R46
R52
Q30
R53
nLDON
R54
R55
pLDCTL
R49
nLDCTLA
Q31
001:D1;002:B3
LASERPOW
R50
5%
R47
1%
MGND
+24VM
R57
PMCK
nPMRDY
nPMON
R51
pPMON
Q5
nPMCKA
Q4
※ : Not Mounted

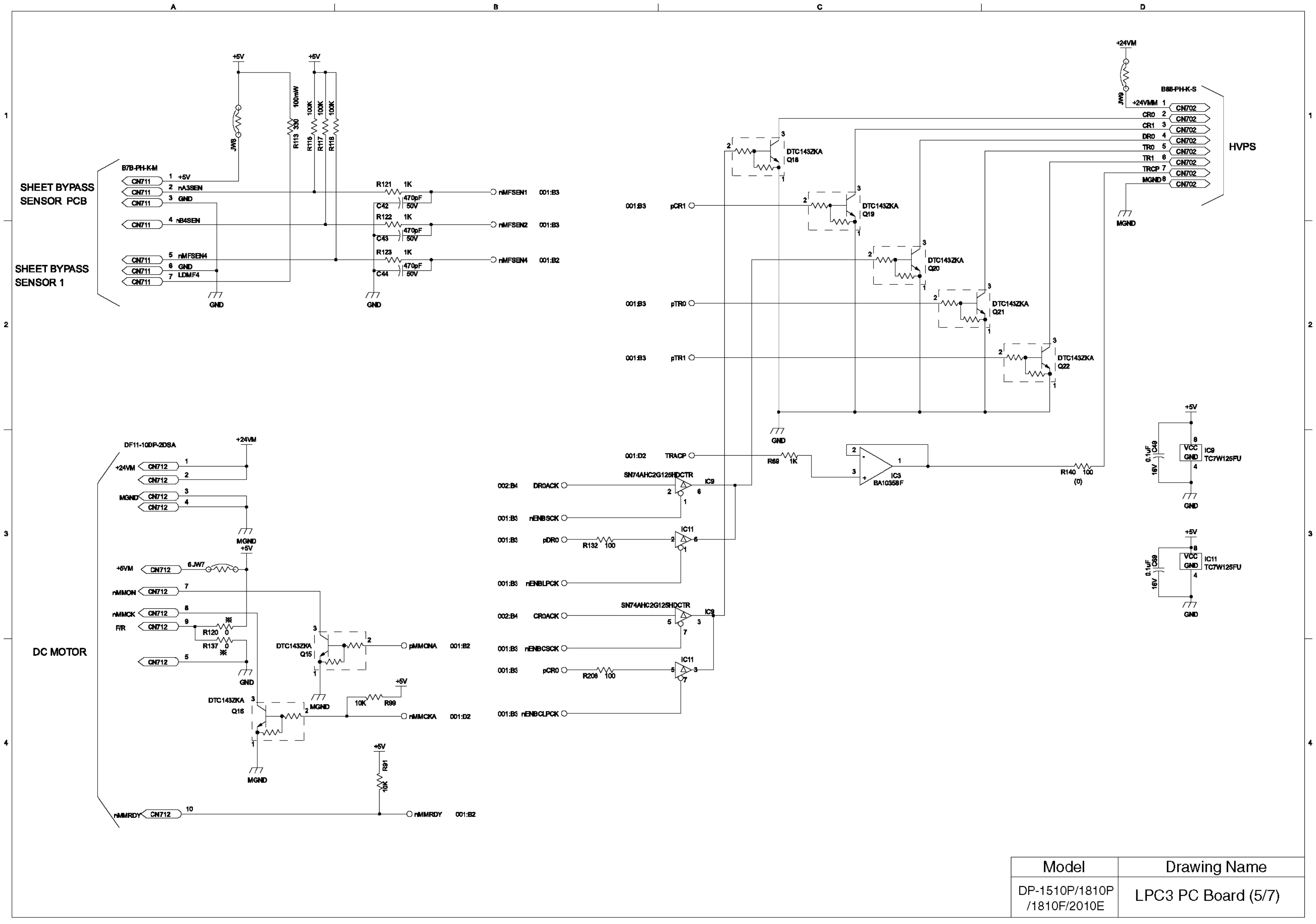
Model	Drawing Name
DP-1510P/1810P /1810F/2010E	LPC3 PC Board (2/7)


A
B
C
D
1
2
3
4
THERMISTER
EXIT
SENSOR
TONER MOTOR
FAN
ILS1
SIDE
DOOR
B5B-PH-K-S
CN708
THERM1
THERM2
nESEN
GND
LDESEN
DF3A-2P-2DSA
CN723
nTM
+24V
+24VM
F7
ICP-S1.0
1.0A
D19
1SR154-400
Q34
2SD1658
R129 0 0.1W
pTMON
R127 3.3K
nTMLOCK
R93 0
R87 10K
BA10393F
IC5
R101 10K 1%
R107 1.5K 1%
R111 0
D16
MA152A
C19 1uF 16V
R124 10K
R126 1.0W 2.2
MGND
THERMA
R195 100
MA153A
D2
C27 1000pF 25V
EA10393F
R58 10K
R64 3.3K
R43 390K
R100 6.8K
C48 0.1uF 25V
2SC2412K
Q23
Q3
560
R65 330K
R70 330K
R68 100
C30 1000pF 25V
D17
nESENA
D6
C61 50V 470pF
R94 1K
R89 100K
R92 330 100mW
R61 10K 1%
Q24
nSSR
nSSRA
R62 4.7K
DTC143ZKA
Q7
Q8
B2P3-VH
CN703
+24VD1
R68 47K
D18
p24LEL1
R71 10K
R72 10K
R59 33K
R60 33K
C29 50V 10uF
Q9
2SJ302-Z
Q32
2SA1313Y
240
R171 10K
R167 2.2K
MA3082H
D1
8.5V
R67 270 2W
R66 270 2W
R170 270 2W
D3
MA152A
TA78M05F
IC6
C31 22uF 35V
C32 10uF 16V
C33 0.1uF 25V
L+5V
pMPOW
Q6
pFAN0
Q10
pFAN1
Q11
nFNRDT
R81 4.7K
R74 12K 100mW
R75 12K 100mW
R76 12K 100mW
R77 12K 100mW
R78 12K 100mW
R79 12K 100mW
R82 10K
R84 10K
Q14
Q12
+24VF4
R85 220 2.0W
R86 220 2.0W
B3B-PH-K-M
CN709
MGND
D5
001:D2
001:D3
002:B1
001:B1
001:B2
001:D4
※ : Not Mounted

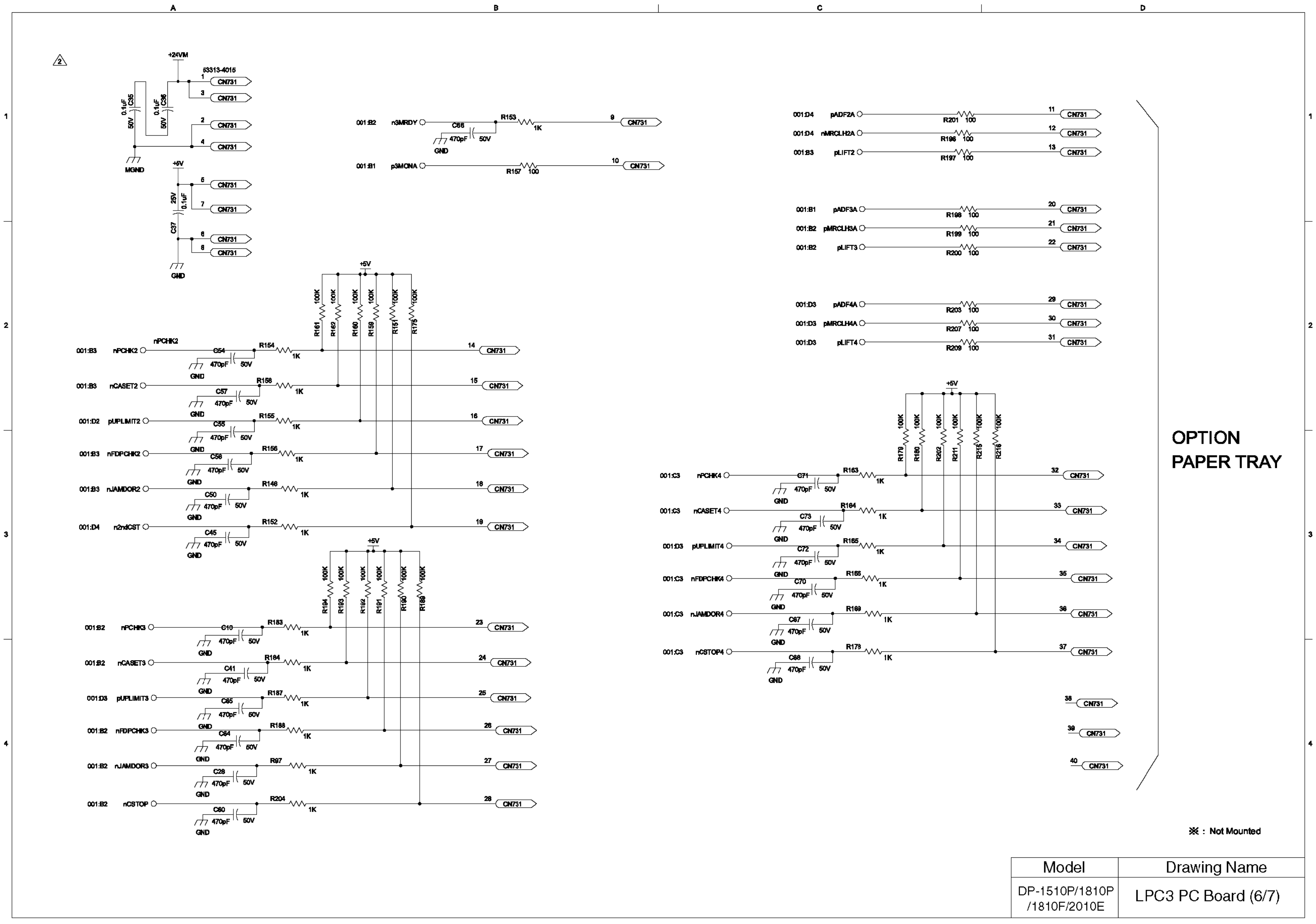
Model	Drawing Name
DP-1510P/1810P /1810F/2010E	LPC3 PC Board (3/7)


A
B
C
D
1
2
3
4
SHEET BYPASS CLUTCH
REGISTRATION CLUTCH
FEED CLUTCH
PAPER TRAY1 SENSOR
SHEET BYPASS SENSOR2
PAPER TRAY1 LIFT MOTOR
COUNTER
PAPER SENSOR
UPPER LIMIT SENSOR
TONER REGISTRATION SENSOR
DF11-8DP-2DSA
DF3A-2P-2DSA
DF11-18DP-2DSA
CN707
CN705
CN706
+24VM
+24VF1
+24VF2
+24VF3
+5V
F4
F3
ICP-S1.0
1.0A
D15
1SR154-400
D7
Q29
560
2SD1626
C46
100uF
16V
R210
4.7K
R88
22K
D8
MA152A
MGND
GND
nHDFA
001:D4
JW18
JW19
IC7
TD62318AF
VCC
COM
O1
O2
O3
O4
I1
I2
I3
I4
NC
nRRCLH
nAFD1
nRRONA
nADF1A
nCOUNTA
nCOUNT
004:C3
R83
1K
R80
10K
Q13
DTC114EKA
R73
C34
1000pF
25V
nCNT
R109
680
R104
C40
470pF
50V
nCASET
nCASET1
R23
330
100mW
R114
100K
R119
C58
nMFPCK
LDMFP
Q17
2SD1658
R105
3.3K
pLIFT1
001:D2
R131
D20
MA152WA
R135
R136
47K
Q35
2SC2412K
JW9
004:A3
R106
R108
R110
R112
R102
R103
C39
C47
nPCHK1
LDPS
nUPLIMIT1
pUPLIMIT1
LDUPL
nLIFTM1
R90
R115
R96
R95
C38
TONER
TONERSEN
pRSEN
pRSENA
LDRSEN
001:B3
※Not Mounted

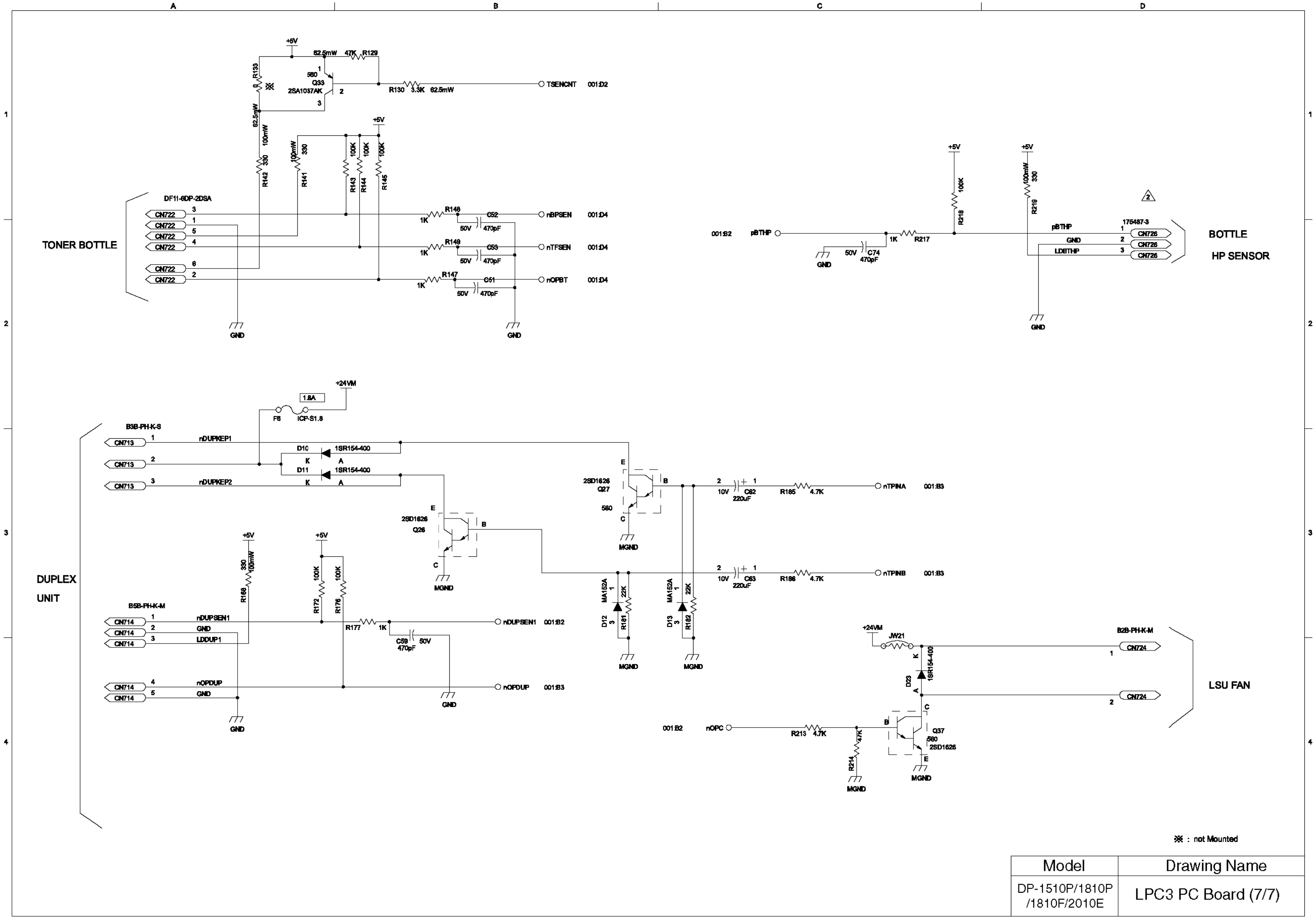
Model	Drawing Name
DP-1510P/1810P /1810F/2010E	LPC3 PC Board (4/7)


A
B
C
D
1
2
3
4
SHEET BYPASS SENSOR PCB
SHEET BYPASS SENSOR 1
B7B-PH-K-M
CN711
1 +5V
2 nA3SEN
3 GND
4 nB4SEN
5 nMFSEN4
6 GND
7 LDMF4
+5V
JW8
R113 330 100mW
R116 100K
R117 100K
R118 100K
R121 1K
C42 470pF 50V
R122 1K
C43 470pF 50V
R123 1K
C44 470pF 50V
GND
nMFSEN1 001:B3
nMFSEN2 001:B3
nMFSEN4 001:B2
DC MOTOR
DF11-10DP-2DSA
+24VM
CN712
MGND
+5VM
6 JW7
nMMON
nMMCK
F/R
R120 0
R137 0
※
DTC143ZKA Q15
DTC143ZKA Q16
pMMONA 001:B2
10K R99
nMMCKA 001:D2
R91 10K
nMMRDY 001:B2
HVPS
B8B-PH-K-S
+24VM
JW9
+24VMM 1
CR0 2
CR1 3
DR0 4
TR0 5
TR1 6
TRCP 7
MGND 8
CN702
DTC143ZKA Q18
DTC143ZKA Q19
DTC143ZKA Q20
DTC143ZKA Q21
DTC143ZKA Q22
001:B3 pCR1
001:B3 pTR0
001:B3 pTR1
001:D2 TRACP
R69 1K
IC3 BA10358F
R140 100 (0)
SN74AHC2G125HDCTR
IC9
IC11
002:B4 DR0ACK
001:B3 nENBSCK
001:B3 pDR0
R132 100
001:B3 nENBLPCK
002:B4 CR0ACK
001:B3 nENBCSCK
001:B3 pCR0
R208 100
001:B3 nENBCLPCK
C49 0.1uF 16V
VCC
GND
IC9 TC7W125FU
C69 0.1uF 16V
IC11 TC7W125FU

Model	Drawing Name
DP-1510P/1810P /1810F/2010E	LPC3 PC Board (5/7)

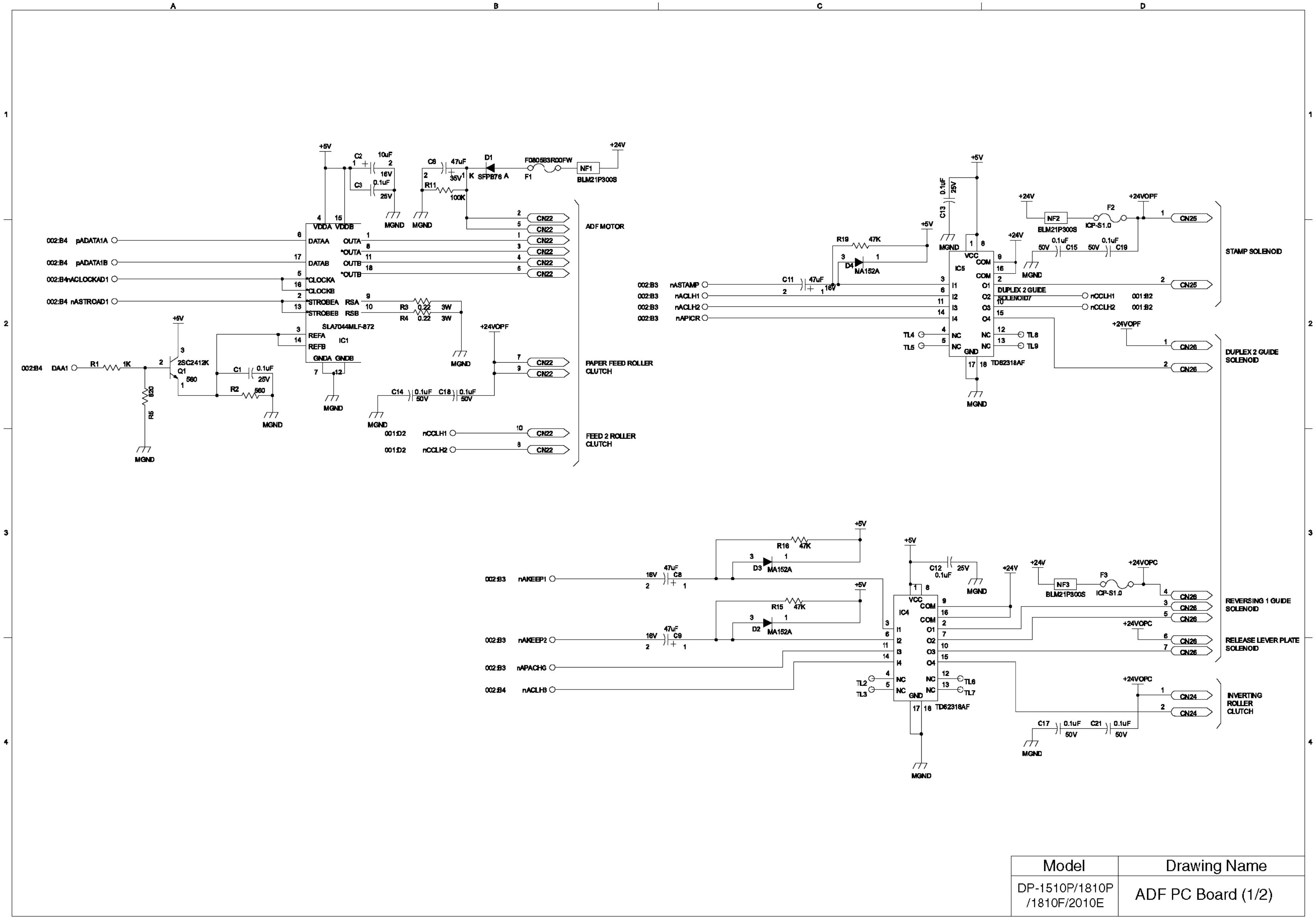

OPTION
PAPER TRAY
※ : Not Mounted
A
B
C
D
1
2
3
4
+24VM
53313-4015
CN731
C35
C36
0.1uF
50V
MGND
+5V
C37
0.1uF
25V
GND
001:B2
n3MRDY
C66
470pF
50V
R153
1K
001:B1
p3MONA
R157
100
001:D4
pADF2A
R201
nMRCLH2A
R196
pLIFT2
R197
pADF3A
R198
pMRCLH3A
R199
pLIFT3
R200
pADF4A
R203
pMRCLH4A
R207
pLIFT4
R209
nPCHK2
C54
R154
nCASET2
C57
R158
pUPLIMIT2
C55
R155
nFDPCHK2
C56
R156
nJAMDOR2
C50
R146
n2ndCST
C45
R152
R161
R162
R160
R159
R151
R175
100K
nPCHK3
C10
R183
nCASET3
C41
R184
pUPLIMIT3
C65
R187
nFDPCHK3
C64
R188
nJAMDOR3
C28
R97
nCSTOP
C60
R204
R194
R193
R192
R191
R190
R189
nPCHK4
C71
R163
nCASET4
C73
R164
pUPLIMIT4
C72
R165
nFDPCHK4
C70
R166
nJAMDOR4
C67
R169
nCSTOP4
C68
R178
R179
R180
R202
R211
R215
R216
001:C3
001:D3
001:B3
001:D2
001:B1
001:D4
001:B2

Model	Drawing Name
DP-1510P/1810P /1810F/2010E	LPC3 PC Board (6/7)

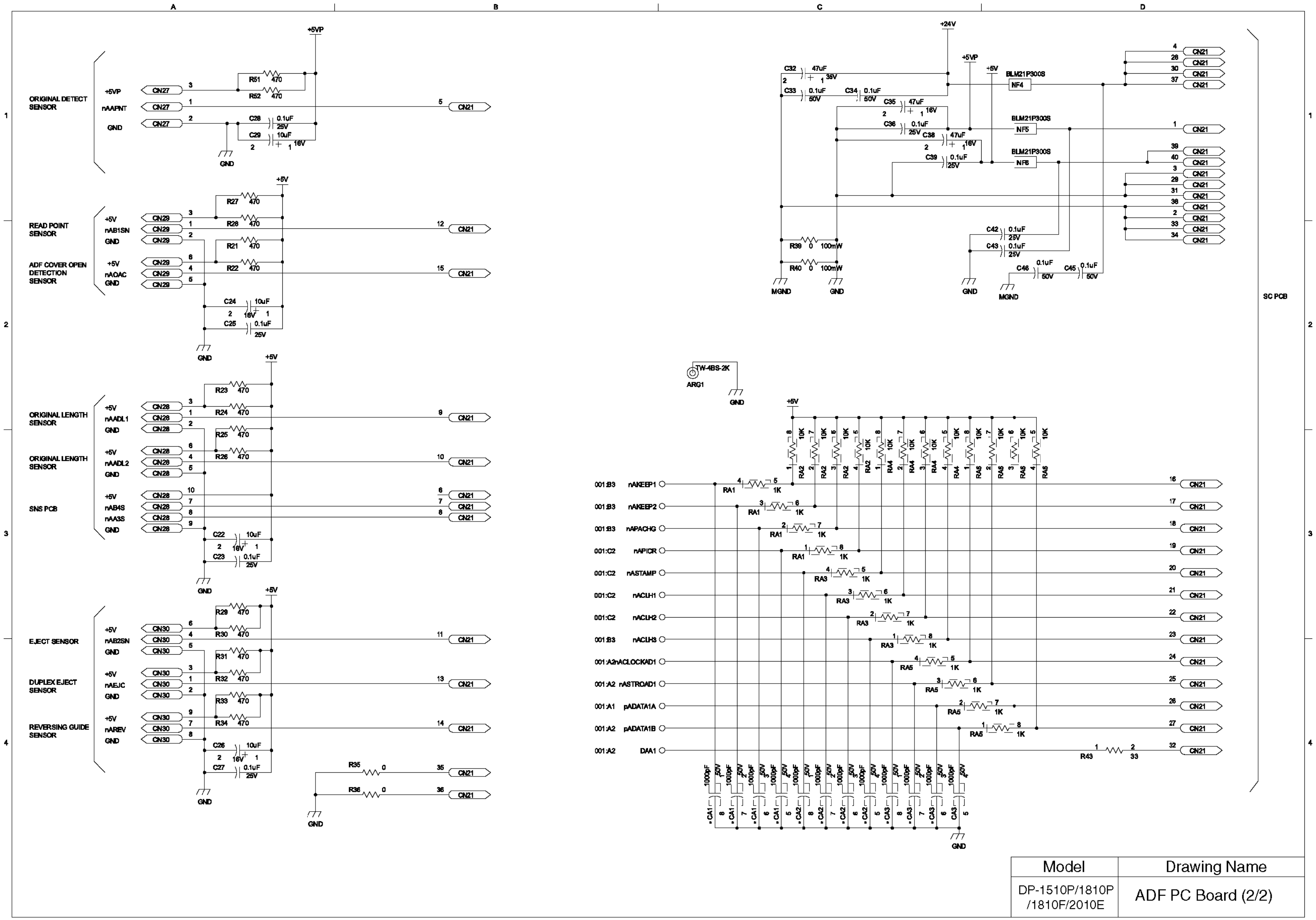

TONER BOTTLE
DF11-8DP-2DSA
CN722
TSENCNT 001:D2
nBPSEN 001:D4
nTFSEN 001:D4
nOPBT 001:D4
Q33 2SA1037AK
R129 47K
R130 3.3K 62.5mW
R133 ※
R141 330 100mW
R142 330 100mW
R143 100K
R144 100K
R145 100K
R146 1K
R149 1K
R147 1K
C52 50V 470pF
C53 50V 470pF
C51 50V 470pF
+5V
GND
BOTTLE
HP SENSOR
176487-3
CN726
pBTHP
LDBTHP
pBTHP 001:B2
R216 100K
R219 330 100mW
R217 1K
C74 50V 470pF
DUPLEX
UNIT
B3B-PH-K-S
CN713
nDUPKEP1
nDUPKEP2
+24VM
F8 ICP-S1.8
1.8A
D10 1SR154-400
D11 1SR154-400
Q26 2SD1626
Q27 2SD1626
560
MGND
C82 10V 220uF
C83 10V 220uF
R185 4.7K
R186 4.7K
nTPINA 001:B3
nTPINB 001:B3
D12 MA152A
D13 MA152A
R181 22K
R182 22K
B5B-PH-K-M
CN714
nDUPSEN1
LDDUP1
nOPDUP
R168 330 100mW
R172 100K
R176 100K
R177 1K
C59 50V 470pF
nDUPSEN1 001:B2
nOPDUP 001:B3
LSU FAN
B2B-PH-K-M
CN724
JW21
D23 1SR154-400
Q37 2SD1626
R213 4.7K
R214 47K
nOPC 001:B2
※ : not Mounted

Model	Drawing Name
DP-1510P/1810P /1810F/2010E	LPC3 PC Board (7/7)

9.4. ADF PC Board

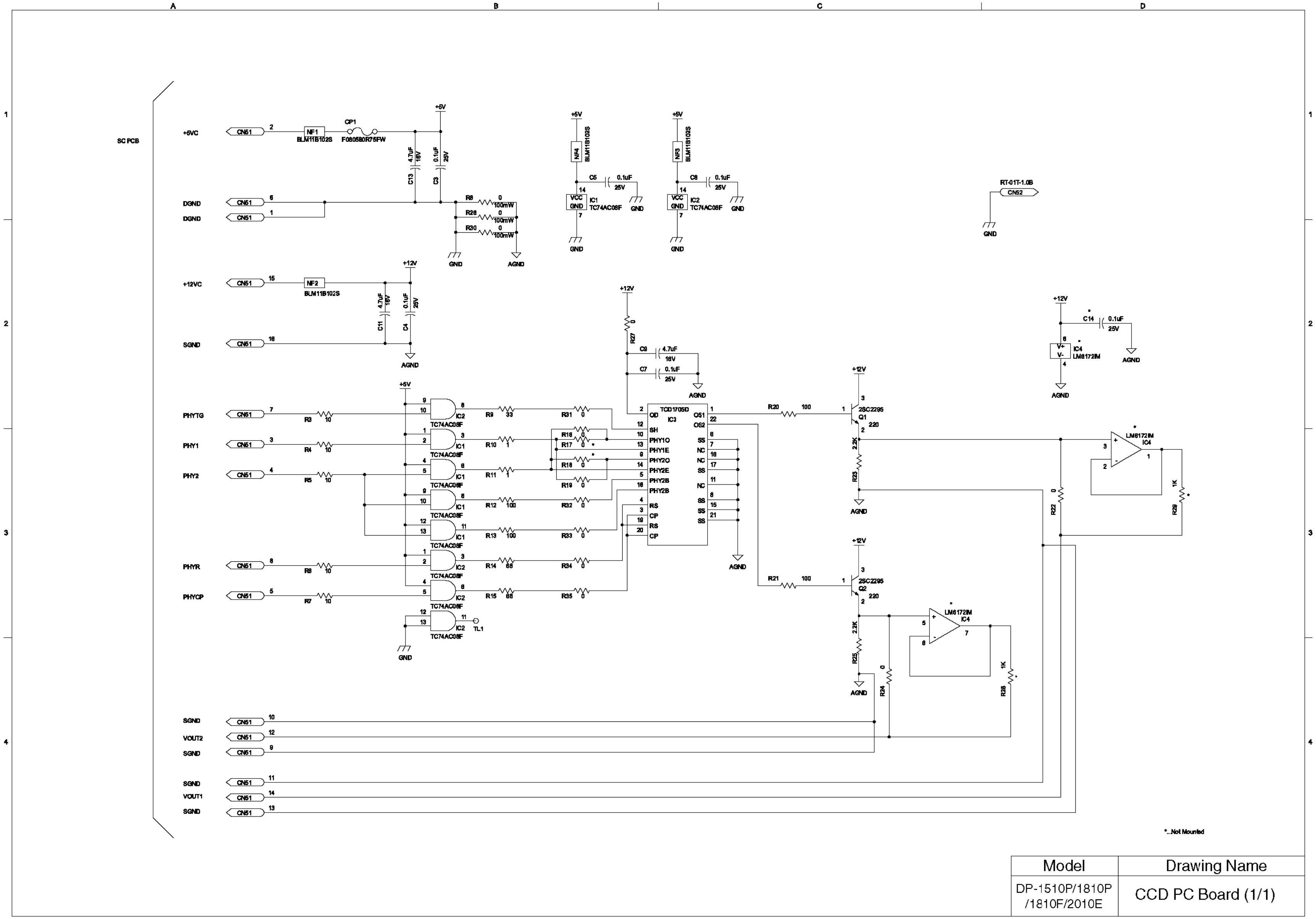

A
B
C
D
1
2
3
4
+5V
+24V
C2 10uF 16V
C3 0.1uF 25V
C6 47uF 35V
D1 SFPB76
K
A
F1 F0805B3R00FW
NF1 BLM21P300S
R11 100K
MGND
VDDA VDDB
DATAA
DATAB
*CLOCKA
*CLOCKB
*STROBEA
*STROBEB
REFA
REFB
GNDA GNDB
OUTA
*OUTA
OUTB
*OUTB
RSA
RSB
SLA7044MLF-872
IC1
R3 0.22 3W
R4 0.22 3W
002:B4 pADATA1A
002:B4 pADATA1B
002:B4 nACLOCKAD1
002:B4 nASTROAD1
002:B4 DAA1
R1 1K
R5 820
Q1 2SC2412K
560
C1 0.1uF 25V
R2 560
CN22
ADF MOTOR
+24VOPF
C14 0.1uF 50V
C18 0.1uF 50V
PAPER FEED ROLLER CLUTCH
001:D2 nCCLH1
001:D2 nCCLH2
FEED 2 ROLLER CLUTCH
002:B3 nASTAMP
002:B3 nACLH1
002:B3 nACLH2
002:B3 nAPICR
C11 47uF 16V
R19 47K
D4 MA152A
C13 0.1uF 25V
IC5
VCC
COM
I1 I2 I3 I4
O1 O2 O3 O4
NC
GND
TD62318AF
TL4
TL5
TL8
TL9
NF2 BLM21P300S
F2 ICP-S1.0
C15 0.1uF 50V
C19 0.1uF 50V
CN25
STAMP SOLENOID
DUPLEX 2 GUIDE SOLENOID7
nCCLH1 001:B2
nCCLH2 001:B2
CN26
DUPLEX 2 GUIDE SOLENOID
002:B3 nAKEEP1
002:B3 nAKEEP2
002:B3 nAPACHG
002:B4 nACLH3
C8 47uF 16V
C9 47uF 16V
R16 47K
R15 47K
D3 MA152A
D2 MA152A
IC4
C12 0.1uF 25V
TL2
TL3
TL6
TL7
NF3 BLM21P300S
F3 ICP-S1.0
+24VOPC
REVERSING 1 GUIDE SOLENOID
RELEASE LEVER PLATE SOLENOID
CN24
INVERTING ROLLER CLUTCH
C17 0.1uF 50V
C21 0.1uF 50V

Model	Drawing Name
DP-1510P/1810P /1810F/2010E	ADF PC Board (1/2)

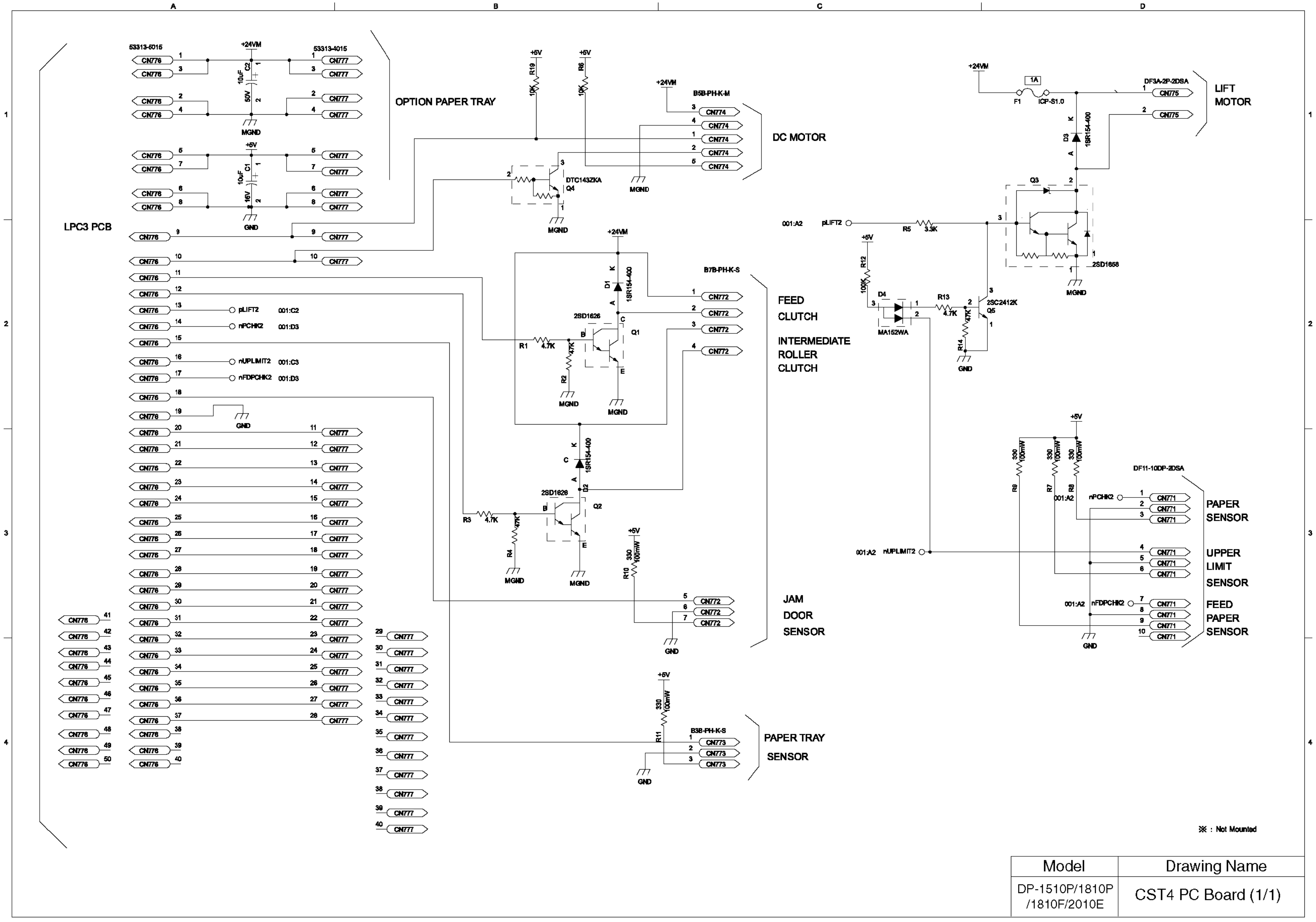

A
B
C
D
1
2
3
4
ORIGINAL DETECT SENSOR
+5VP
nAAPNT
GND
READ POINT SENSOR
+5V
nAB1SN
GND
ADF COVER OPEN DETECTION SENSOR
nAOAC
ORIGINAL LENGTH SENSOR
nAADL1
nAADL2
SNS PCB
nAB4S
nAA3S
EJECT SENSOR
nAB2SN
DUPLEX EJECT SENSOR
nAEJC
REVERSING GUIDE SENSOR
nAREV
CN27
CN28
CN29
CN30
CN21
R51
R52
R21
R22
R23
R24
R25
R26
R27
R28
R29
R30
R31
R32
R33
R34
R35
R36
470
C22
C23
C24
C25
C26
C27
C28
C29
0.1uF
10uF
25V
16V
GND
+24V
C32
C33
C34
C35
C36
C38
C39
C42
C43
C45
C46
47uF
35V
50V
BLM21P300S
NF4
NF5
NF6
R39
R40
0
100mW
MGND
SC PCB
TW-4BS-2K
ARG1
001:B3
001:C2
001:A2
001:A1
nAKEEP1
nAKEEP2
nAPACHG
nAPICR
nASTAMP
nACLH1
nACLH2
nACLH3
nACLOCKAD1
nASTROAD1
pADATA1A
pADATA1B
DIA1
RA1
RA2
RA3
RA4
RA5
RA6
1K
10K
R43
33
CA1
CA2
CA3
1000pF

Model	Drawing Name
DP-1510P/1810P /1810F/2010E	ADF PC Board (2/2)

9.5. CCD PC Board

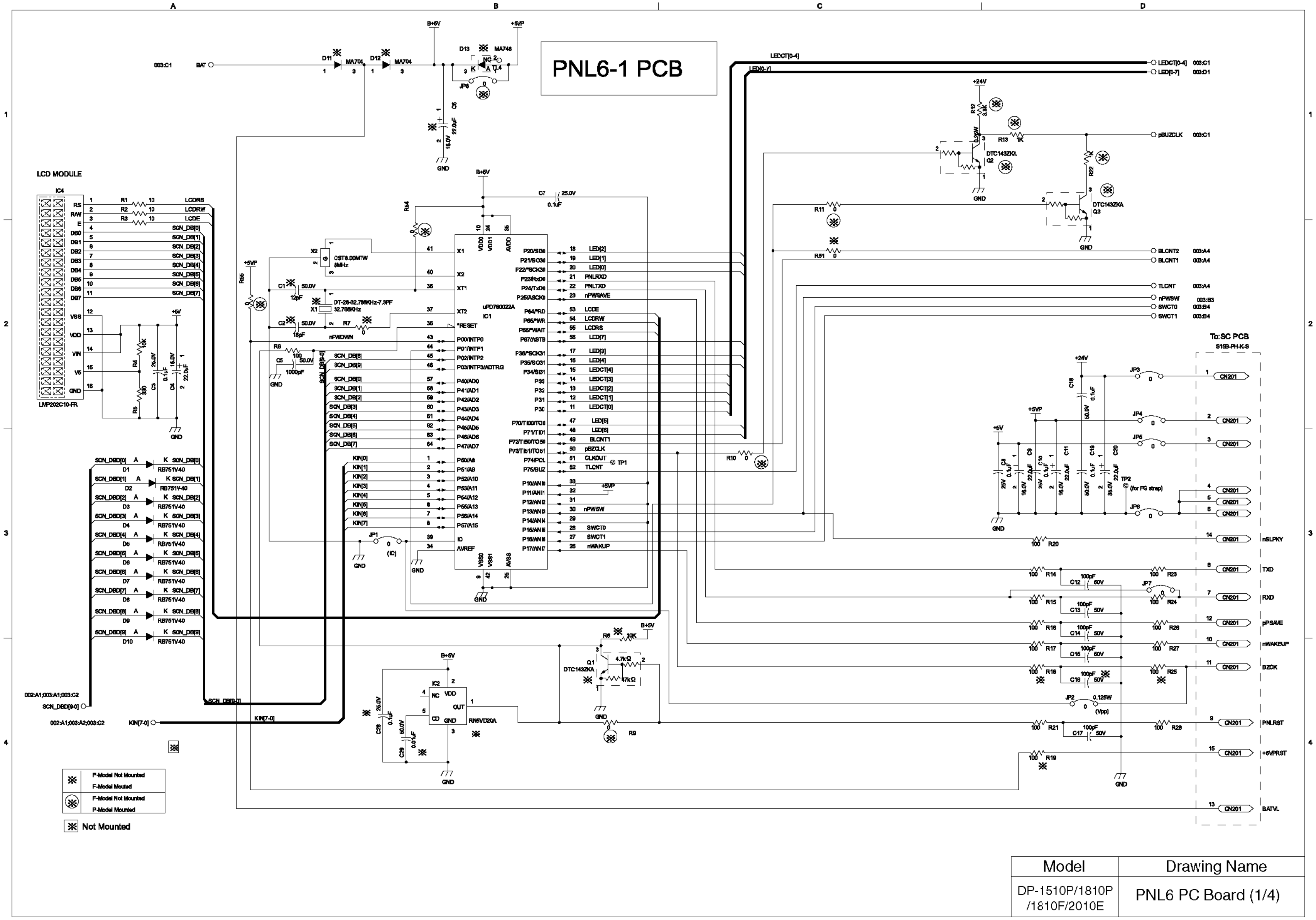

A
B
C
D
1
2
3
4
SC PCB
+5VC
CN51
2
NF1
BLM11B102S
CP1
F0805B0R75FW
+5V
C13
4.7uF
16V
C3
0.1uF
25V
DGND
CN51
6
DGND
CN51
1
R8
0
100mW
R26
0
100mW
R30
0
100mW
GND
AGND
+12VC
CN51
15
NF2
BLM11B102S
+12V
C11
4.7uF
16V
C4
0.1uF
25V
SGND
CN51
16
AGND
+5V
NF4
BLM11B102S
C5
0.1uF
25V
14
VCC
GND
IC1
TC74AC08F
7
GND
+5V
NF3
BLM11B102S
C8
0.1uF
25V
14
VCC
GND
IC2
TC74AC08F
7
GND
RT-01T-1.0B
CN52
GND
+12V
R27
0
C9
4.7uF
16V
C7
0.1uF
25V
AGND
PHYTG
CN51
7
R3
10
PHY1
CN51
3
R4
10
PHY2
CN51
4
R5
10
PHYR
CN51
8
R6
10
PHYCP
CN51
5
R7
10
+5V
IC2
IC1
TC74AC08F
GND
TL1
R9
33
R10
1
R11
1
R12
100
R13
100
R14
68
R15
68
R31
0
R16
0
R17
0
R18
0
R19
0
R32
0
R33
0
R34
0
R35
0
TCD1705D
IC3
OD
SH
PHY1O
PHY1E
PHY2O
PHY2E
PHY2B
PHY2B
RS
CP
RS
CP
OS1
OS2
SS
NC
NC
SS
NC
SS
SS
SS
AGND
R20
100
R21
100
+12V
2SC2295
Q1
220
2SC2295
Q2
220
2.2K
R23
2.2K
R25
AGND
LM6172IM
IC4
R22
0
R29
1K
R24
0
R28
1K
+12V
C14
0.1uF
25V
V+
V-
IC4
LM6172IM
AGND
SGND
CN51
10
VOUT2
CN51
12
SGND
CN51
9
SGND
CN51
11
VOUT1
CN51
14
SGND
CN51
13
*...Not Mounted
Model
Drawing Name
DP-1510P/1810P
/1810F/2010E
CCD PC Board (1/1)

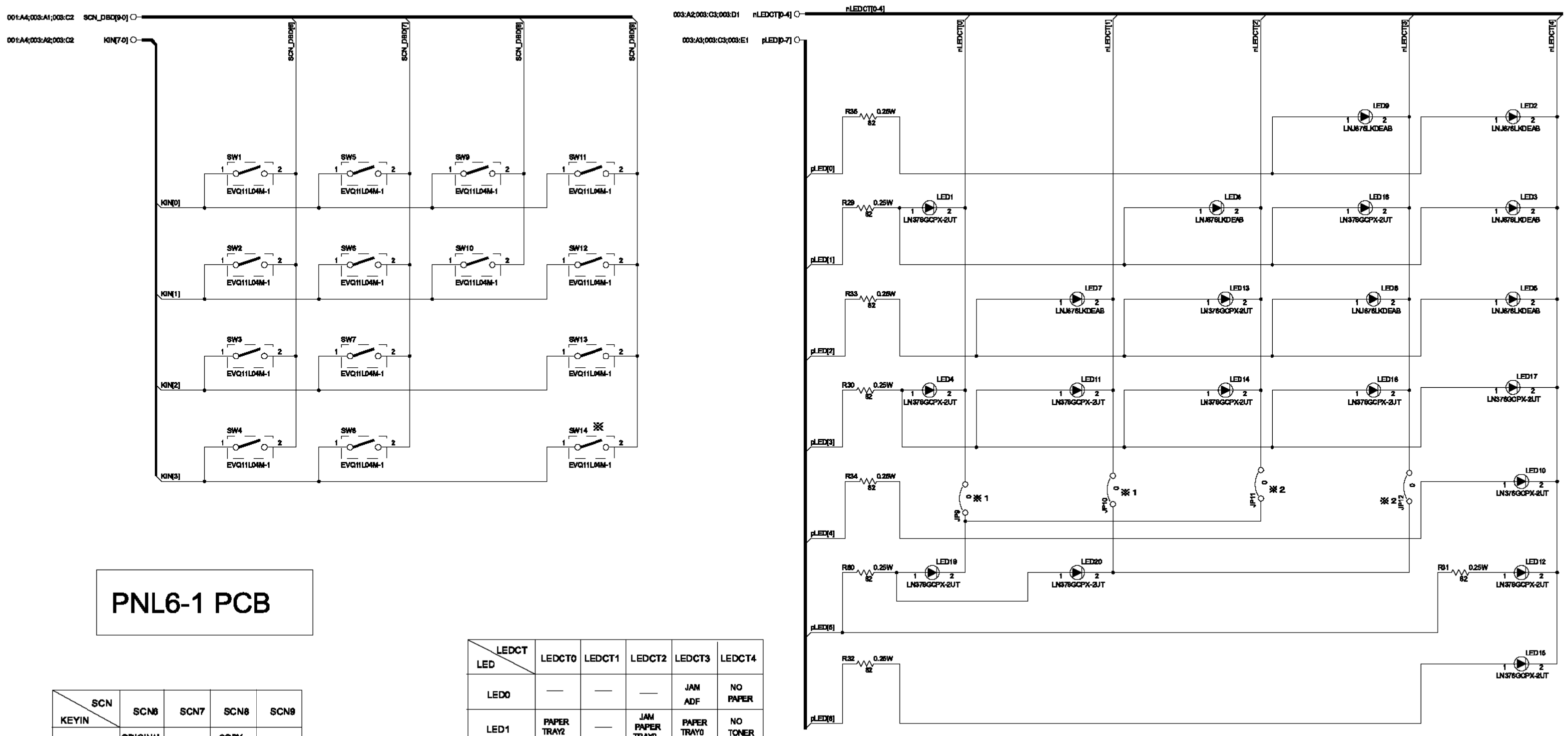
9.6. CST4 PC Board


LPC3 PCB
OPTION PAPER TRAY
DC MOTOR
FEED CLUTCH
INTERMEDIATE ROLLER CLUTCH
JAM DOOR SENSOR
PAPER TRAY SENSOR
LIFT MOTOR
PAPER SENSOR
UPPER LIMIT SENSOR
FEED PAPER SENSOR
53313-5015
53313-4015
B5B-PH-K-M
B7B-PH-K-S
B3B-PH-K-S
DF3A-2P-2DSA
DF11-10DP-2DSA
CN776
CN777
CN774
CN772
CN773
CN775
CN771
+24VM
+5V
MGND
GND
C2 10uF 50V
C1 10uF 16V
R19 10K
R6 10K
Q4 DTC143ZKA
Q1 2SD1626
Q2 2SD1626
D1 1SR154-400
D2 1SR154-400
D3 1SR154-400
R1 4.7K
R2 47K
R3 4.7K
R4 47K
R10 330 100mW
R11 330 100mW
F1 1A ICP-S1.0
Q3 2SD1658
R5 3.3K
R12 100K
R13 4.7K
R14 47K
D4 MA152WA
Q5 2SC2412K
R9 330 100mW
R7 330 100mW
R8 330 100mW
pLIFT2 001:C2
nPCHK2 001:D3
nUPLIMIT2 001:C3
nFDPCHK2 001:D3
001:A2 pLIFT2
001:A2 nUPLIMIT2
001:A2 nPCHK2
001:A2 nFDPCHK2
※ : Not Mounted

Model	Drawing Name
DP-1510P/1810P /1810F/2010E	CST4 PC Board (1/1)

9.7. PNL6 PC Board


PNL6-1 PCB
LCD MODULE
IC4
LMP202C10-FR
uPD780022A
IC1
To:SC PCB
S15B-PH-K-S
CN201
LEDCT[0-4]
LED[0-7]
pBUZCLK
BLCNT2
BLCNT1
TLCNT
nPWSW
SWCT0
SWCT1
nSLPKY
TXD
RXD
pPSAVE
nWAKEUP
BZCK
PNLRST
+5VPRST
BATVL
SCN_DBD[9-0]
KIN[7-0]
DTC143ZKA
RN5VD20A
IC2
RB751V-40
MA704
MA748
CST8.00MTW
DT-26-32.768KHz-7.3PF
P-Model Not Mounted
F-Model Mouted
F-Model Not Mounted
P-Model Mounted
Not Mounted
Model
Drawing Name
DP-1510P/1810P
/1810F/2010E
PNL6 PC Board (1/4)


A
B
C
D
1
2
3
4
001:A4;003:A1;003:C2
SCN_DSD[9-0]
001:A4;003:A2;003:C2
KIN[7-0]
SCN_DSD[6]
SCN_DSD[7]
SCN_DSD[8]
SCN_DSD[9]
KIN[0]
KIN[1]
KIN[2]
KIN[3]
SW1
SW2
SW3
SW4
SW5
SW6
SW7
SW8
SW9
SW10
SW11
SW12
SW13
SW14 ※
EVQ11L04M-1
003:A2;003:C3;003:D1
nLEDCT[0-4]
003:A3;003:C3;003:E1
pLED[0-7]
nLEDCT[0]
nLEDCT[1]
nLEDCT[2]
nLEDCT[3]
nLEDCT[4]
pLED[0]
pLED[1]
pLED[2]
pLED[3]
pLED[4]
pLED[5]
pLED[6]
R35
R29
R33
R30
R34
R80
R31
R32
0.25W
82
LED1
LED2
LED3
LED4
LED5
LED6
LED7
LED8
LED9
LED10
LED11
LED12
LED13
LED14
LED15
LED16
LED17
LED18
LED19
LED20
LN376GCPX-2UT
LNJ676LKDEAB
JP9
JP10
JP11
JP12
0
※1
※2

PNL6-1 PCB

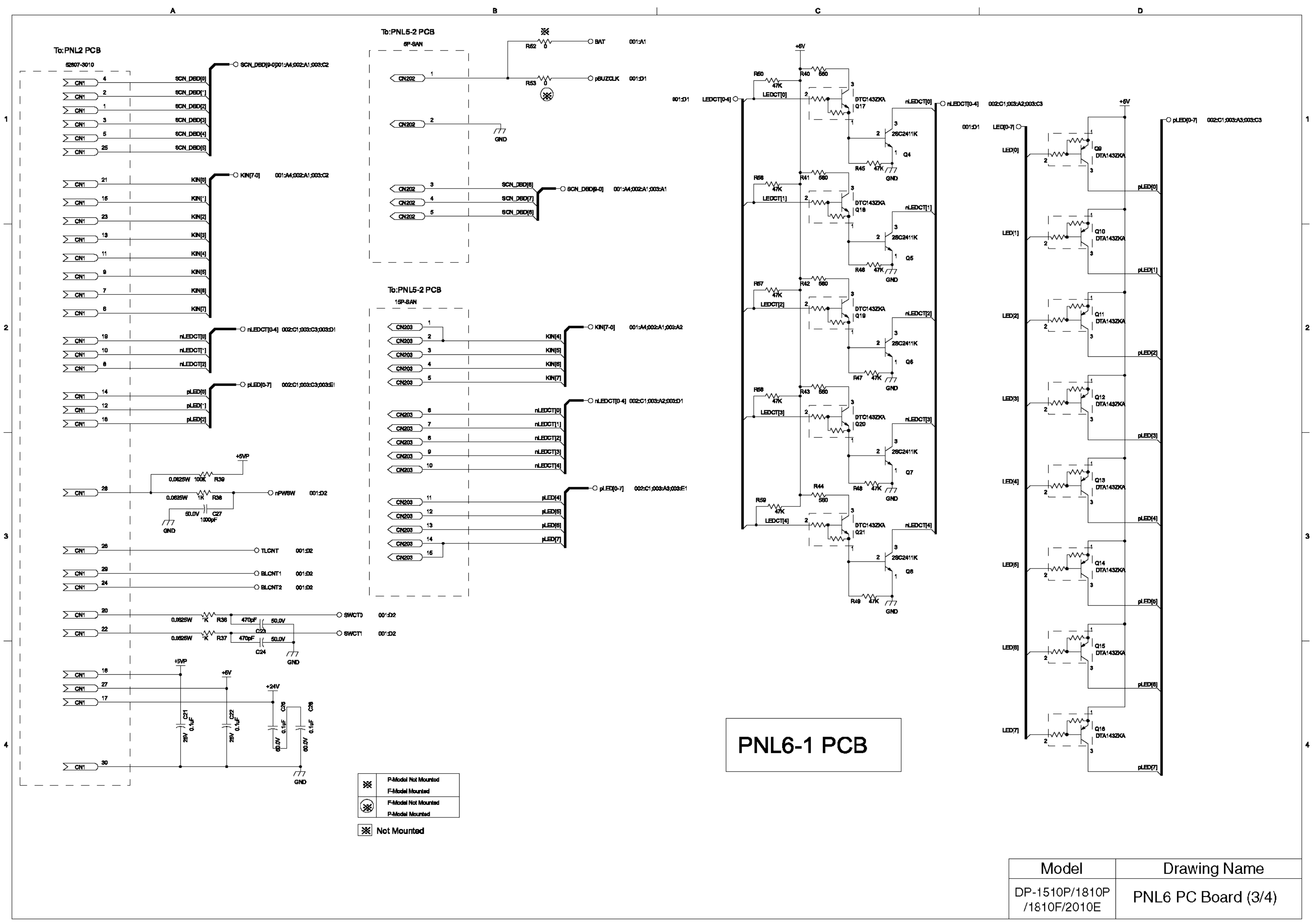
SCN KEYIN	SCN6	SCN7	SCN8	SCN9
KEYIN0	ORIGINAL SIZE	↑	COPY SIZE	FUNCTION
KEYIN1	LIGHTER	←	PAPER TRAY	SET
KEYIN2	IMAGE TYPE	→		CLEAR
KEYIN3	DARKER	↓		MONITOR

LEDCT LED	LEDCT0	LEDCT1	LEDCT2	LEDCT3	LEDCT4
LED0	—	—	—	JAM ADF	NO PAPER
LED1	PAPER TRAY2	—	JAM PAPER TRAY0	PAPER TRAY0	NO TONER
LED2	—	SERVICE CALL	PAPER TRAY1	JAM PAPER TRAY	JAM
LED3	SELECT0	SELECT2	SELECT3	SELECT4	SELECT5
LED4	—	—	—	—	TEXT/ PHOTO
LED5	PAPER TRAY3 ※ 1	PAPER TRAY4 ※1	PAPER TRAY3 ※2	PAPER TRAY4 ※2	TEXT
LED6	—	—	—	—	PHOTO

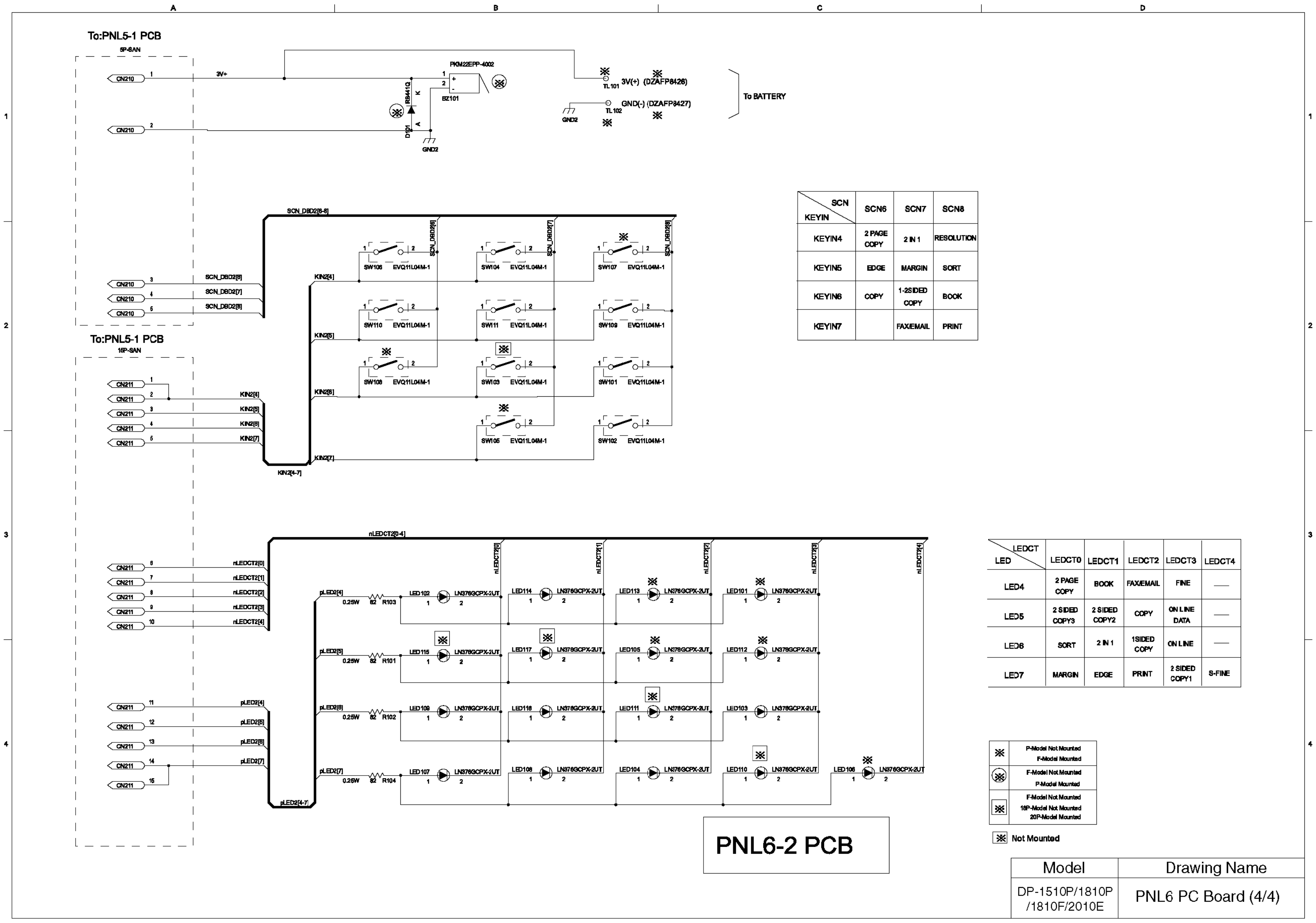
※ 1	16P-Model Not Mounted 20P-Model Not Mounted F-Model Mounted
※ 2	16P-Model Not Mounted 20P-Model Mounted F-Model Not Mounted

※	P-Model Not Mounted F-Model Mounted
㊟	F-Model Not Mounted P-Model Mounted

Model	Drawing Name
DP-1510P/1810P /1810F/2010E	PNL6 PC Board (2/4)


A
B
C
D
1
2
3
4
To:PNL2 PCB
52807-3010
CN1
SCN_DBD[0]
SCN_DBD[1]
SCN_DBD[2]
SCN_DBD[3]
SCN_DBD[4]
SCN_DBD[5]
SCN_DBD[9-0] 001:A4;002:A1;003:C2
KIN[0]
KIN[1]
KIN[2]
KIN[3]
KIN[4]
KIN[5]
KIN[6]
KIN[7]
KIN[7-0] 001:A4;002:A1;003:C2
nLEDCT[0]
nLEDCT[1]
nLEDCT[2]
nLEDCT[0-4] 002:C1;003:C3;003:D1
pLED[0]
pLED[1]
pLED[2]
pLED[0-7] 002:C1;003:C3;003:E1
+5VP
0.0625W 100K R39
0.0625W 1K R38
50.0V C27 1000pF
nPWSW 001:D2
GND
TLCNT 001:D2
BLCNT1 001:D2
BLCNT2 001:D2
0.0625W 1K R36
0.0625W 1K R37
470pF C23 50.0V
470pF C24 50.0V
SWCT0 001:D2
SWCT1 001:D2
+5V
+24V
C21 0.1uF 25V
C22 0.1uF 25V
C25 0.1uF 50.0V
C26 0.1uF 50.0V
To:PNL5-2 PCB
5P-SAN
CN202
R52 0
R53 0
BAT 001:A1
pBUZCLK 001:D1
SCN_DBD[6]
SCN_DBD[7]
SCN_DBD[8]
SCN_DBD[9-0] 001:A4;002:A1;003:A1
To:PNL5-2 PCB
15P-SAN
CN203
KIN[4]
KIN[5]
KIN[6]
KIN[7]
KIN[7-0] 001:A4;002:A1;003:A2
nLEDCT[0]
nLEDCT[1]
nLEDCT[2]
nLEDCT[3]
nLEDCT[4]
nLEDCT[0-4] 002:C1;003:A2;003:D1
pLED[4]
pLED[5]
pLED[6]
pLED[7]
pLED[0-7] 002:C1;003:A3;003:E1
P-Model Not Mounted
F-Model Mounted
F-Model Not Mounted
P-Model Mounted
Not Mounted
001:D1 LEDCT[0-4]
R56 47K
R57 47K
R58 47K
R59 47K
R40 560
R41 560
R42 560
R43 560
R44 560
LEDCT[0]
LEDCT[1]
LEDCT[2]
LEDCT[3]
LEDCT[4]
DTC143ZKA Q17
DTC143ZKA Q18
DTC143ZKA Q19
DTC143ZKA Q20
DTC143ZKA Q21
2SC2411K Q4
2SC2411K Q5
2SC2411K Q6
2SC2411K Q7
2SC2411K Q8
R45 47K
R46 47K
R47 47K
R48 47K
R49 47K
nLEDCT[0]
nLEDCT[1]
nLEDCT[2]
nLEDCT[3]
nLEDCT[4]
nLEDCT[0-4] 002:C1;003:A2;003:C3
001:D1 LED[0-7]
LED[0]
LED[1]
LED[2]
LED[3]
LED[4]
LED[5]
LED[6]
LED[7]
Q9 DTA143ZKA
Q10 DTA143ZKA
Q11 DTA143ZKA
Q12 DTA143ZKA
Q13 DTA143ZKA
Q14 DTA143ZKA
Q15 DTA143ZKA
Q16 DTA143ZKA
pLED[0]
pLED[1]
pLED[2]
pLED[3]
pLED[4]
pLED[5]
pLED[6]
pLED[7]
pLED[0-7] 002:C1;003:A3;003:C3
PNL6-1 PCB

Model	Drawing Name
DP-1510P/1810P /1810F/2010E	PNL6 PC Board (3/4)


A
B
C
D
1
2
3
4
To:PNL5-1 PCB
5P-SAN
CN210
3V+
PKM22EPP-4002
BZ101
RB441Q
D101
K
A
GND2
TL101
3V(+) (DZAFP8426)
TL102
GND(-) (DZAFP8427)
To BATTERY
SCN_DBD2[6-8]
SCN_DBD2[6]
SCN_DBD2[7]
SCN_DBD2[8]
To:PNL5-1 PCB
15P-SAN
CN211
KIN2[4]
KIN2[5]
KIN2[6]
KIN2[7]
KIN2[4-7]
SW106 EVQ11L04M-1
SW104 EVQ11L04M-1
SW107 EVQ11L04M-1
SW110 EVQ11L04M-1
SW111 EVQ11L04M-1
SW109 EVQ11L04M-1
SW108 EVQ11L04M-1
SW103 EVQ11L04M-1
SW101 EVQ11L04M-1
SW105 EVQ11L04M-1
SW102 EVQ11L04M-1
nLEDCT2[0-4]
nLEDCT2[0]
nLEDCT2[1]
nLEDCT2[2]
nLEDCT2[3]
nLEDCT2[4]
pLED2[4]
pLED2[5]
pLED2[6]
pLED2[7]
pLED2[4-7]
0.25W 82 R103
0.25W 82 R101
0.25W 82 R102
0.25W 82 R104
LED102 LN376GCPX-2UT
LED114 LN376GCPX-2UT
LED113 LN376GCPX-2UT
LED101 LN376GCPX-2UT
LED115 LN376GCPX-2UT
LED117 LN376GCPX-2UT
LED105 LN376GCPX-2UT
LED112 LN376GCPX-2UT
LED109 LN376GCPX-2UT
LED116 LN376GCPX-2UT
LED111 LN376GCPX-2UT
LED103 LN376GCPX-2UT
LED107 LN376GCPX-2UT
LED108 LN376GCPX-2UT
LED104 LN376GCPX-2UT
LED110 LN376GCPX-2UT
LED106 LN376GCPX-2UT
※

KEYIN \ SCN	SCN6	SCN7	SCN8
KEYIN4	2 PAGE COPY	2 IN 1	RESOLUTION
KEYIN5	EDGE	MARGIN	SORT
KEYIN6	COPY	1-2SIDED COPY	BOOK
KEYIN7		FAX/EMAIL	PRINT

LED \ LEDCT	LEDCT0	LEDCT1	LEDCT2	LEDCT3	LEDCT4
LED4	2 PAGE COPY	BOOK	FAX/EMAIL	FINE	—
LED5	2 SIDED COPY3	2 SIDED COPY2	COPY	ON LINE DATA	—
LED6	SORT	2 IN 1	1SIDED COPY	ON LINE	—
LED7	MARGIN	EDGE	PRINT	2 SIDED COPY1	S-FINE

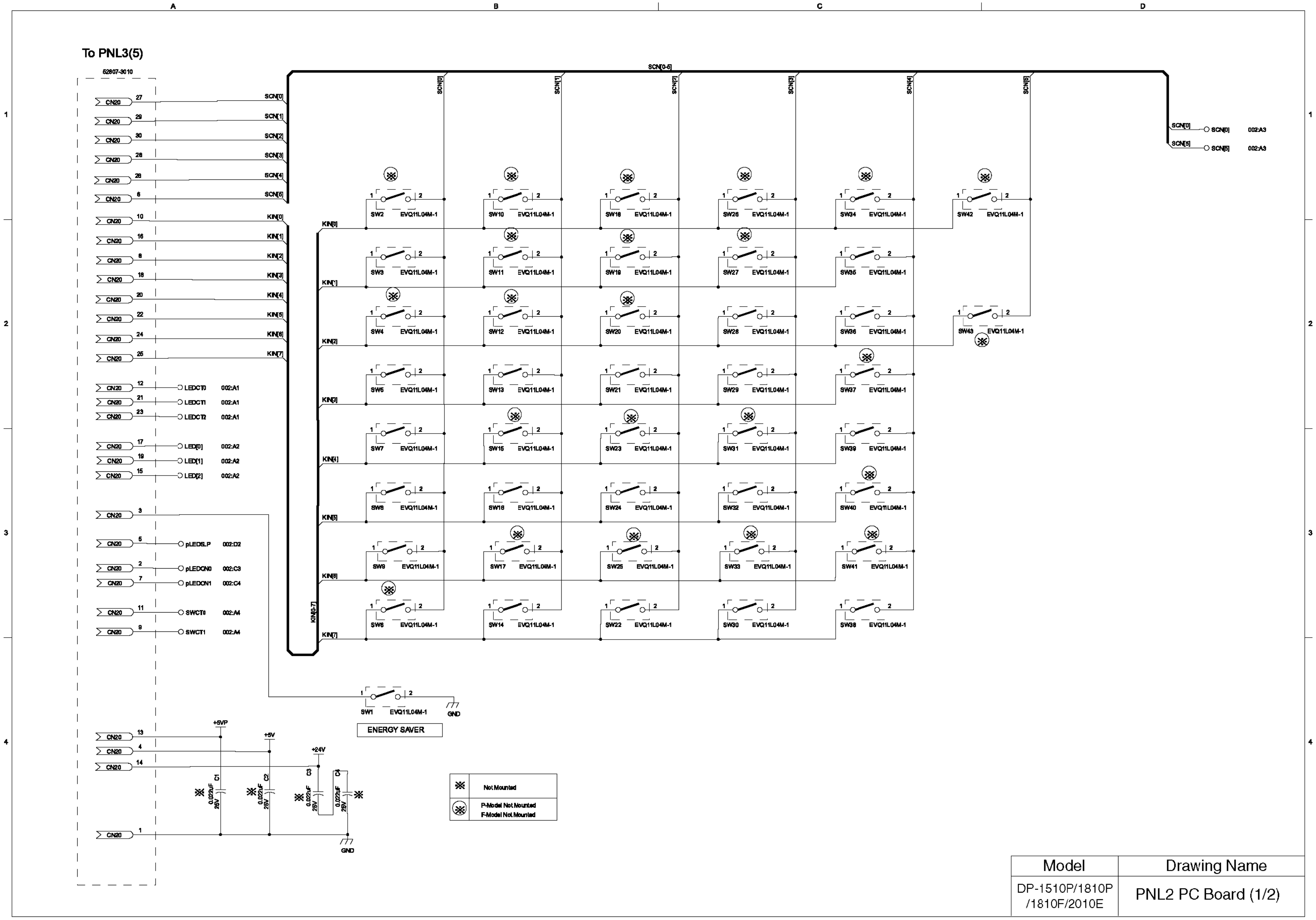
※	P-Model Not Mounted F-Model Mounted
㊟	F-Model Not Mounted P-Model Mounted
⊠	F-Model Not Mounted 18P-Model Not Mounted 20P-Model Mounted

⊠ Not Mounted

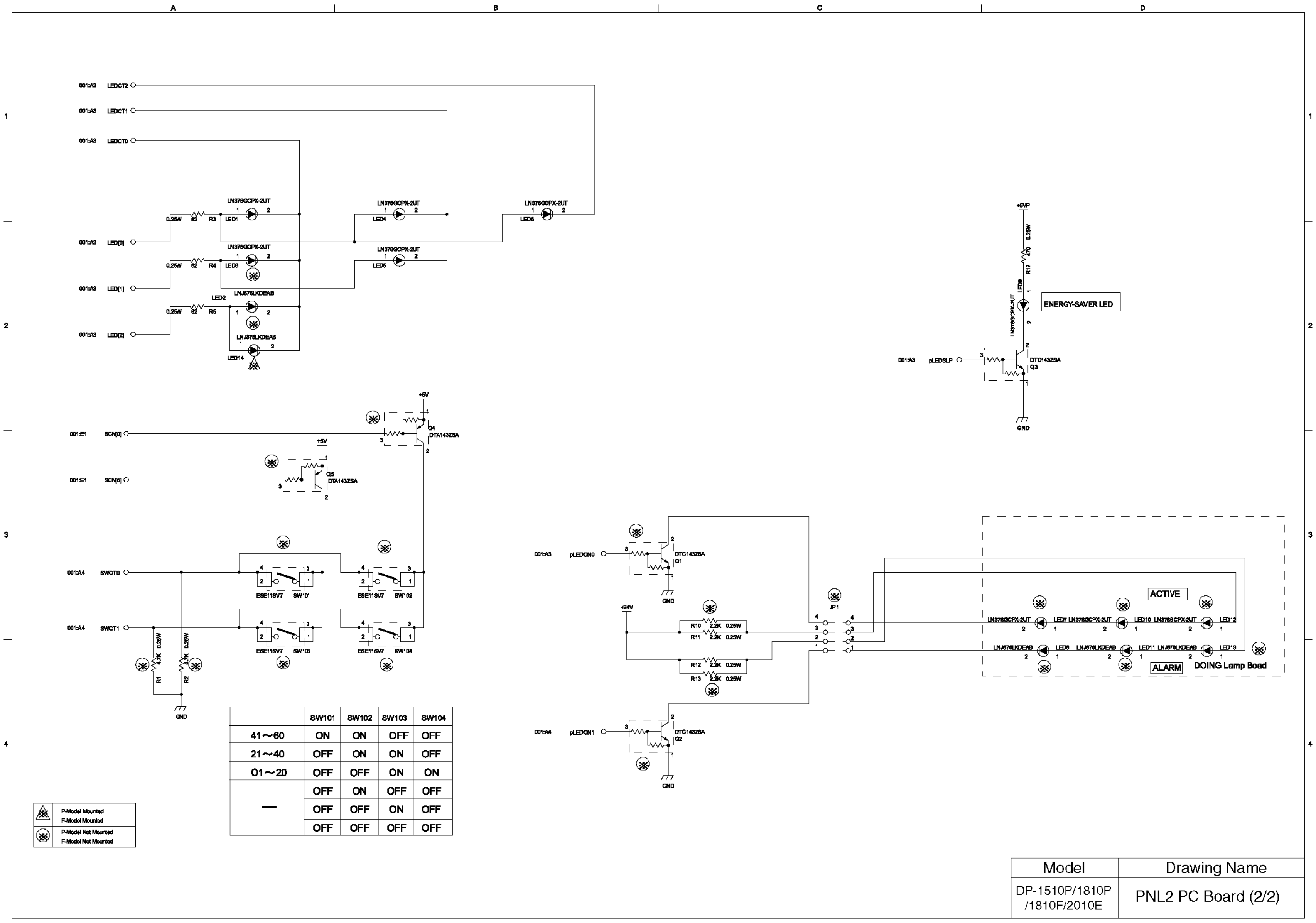
PNL6-2 PCB

Model	Drawing Name
DP-1510P/1810P /1810F/2010E	PNL6 PC Board (4/4)

9.8. PNL2 PC Board


A
B
C
D
1
2
3
4
To PNL3(5)
52807-3010
CN20
27
29
30
28
26
6
10
16
8
18
20
22
24
25
12
21
23
17
19
15
3
5
2
7
11
9
13
4
14
1
SCN[0]
SCN[1]
SCN[2]
SCN[3]
SCN[4]
SCN[5]
SCN[0-5]
KIN[0]
KIN[1]
KIN[2]
KIN[3]
KIN[4]
KIN[5]
KIN[6]
KIN[7]
KIN[0-7]
LEDCT0 002:A1
LEDCT1 002:A1
LEDCT2 002:A1
LED[0] 002:A2
LED[1] 002:A2
LED[2] 002:A2
pLEDSLP 002:D2
pLEDON0 002:C3
pLEDON1 002:C4
SWCT0 002:A4
SWCT1 002:A4
SCN[0] 002:A3
SCN[5] 002:A3
SW2 SW3 SW4 SW5 SW7 SW8 SW9 SW6
SW10 SW11 SW12 SW13 SW15 SW16 SW17 SW14
SW18 SW19 SW20 SW21 SW23 SW24 SW25 SW22
SW26 SW27 SW28 SW29 SW31 SW32 SW33 SW30
SW34 SW35 SW36 SW37 SW39 SW40 SW41 SW38
SW42 SW43
EVQ11L04M-1
SW1
ENERGY SAVER
GND
+5VP
+5V
+24V
C1
C2
C3
C4
0.022uF
25V
※ Not Mounted
㊟ P-Model Not Mounted
F-Model Not Mounted

Model	Drawing Name
DP-1510P/1810P /1810F/2010E	PNL2 PC Board (1/2)

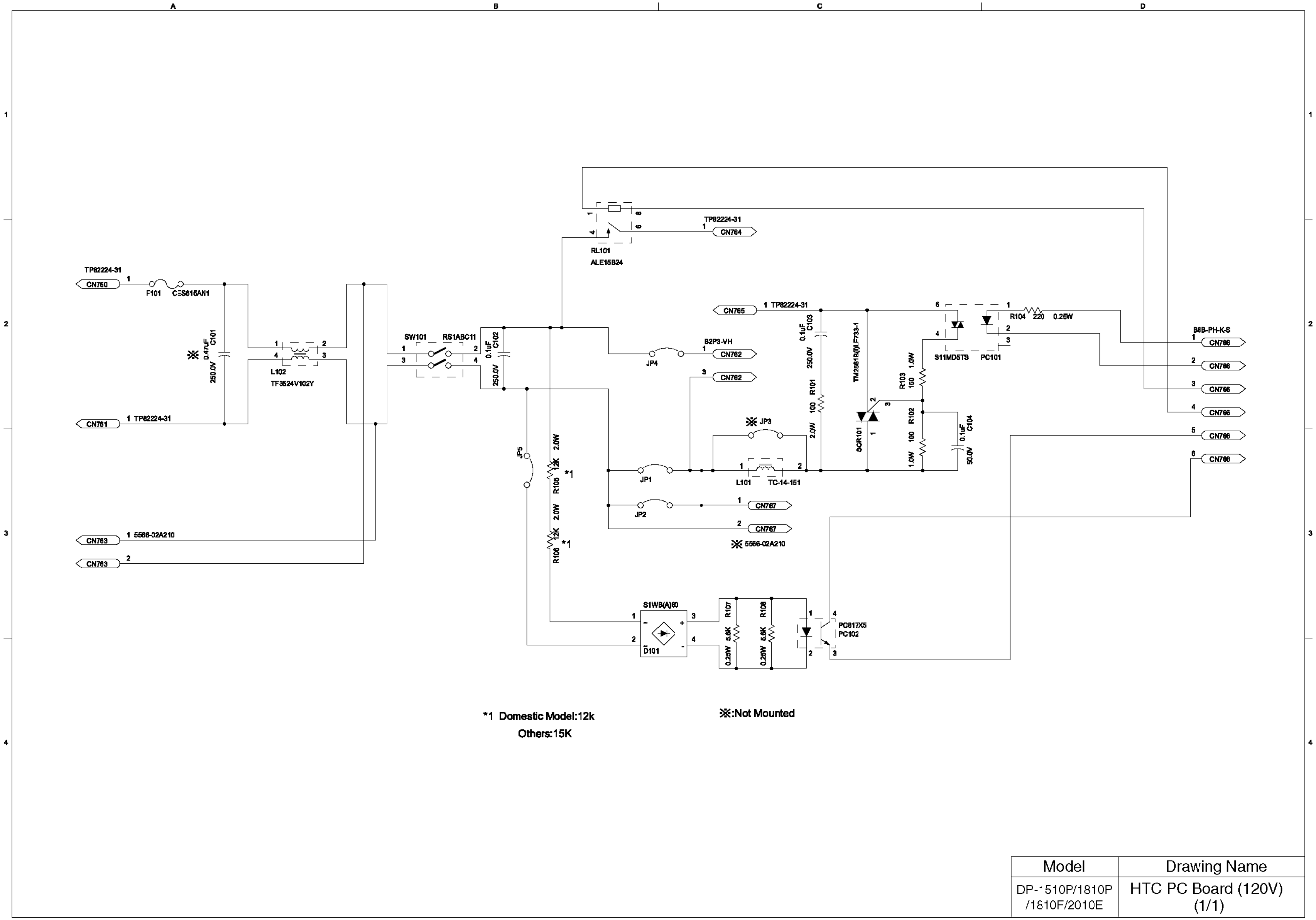

A
B
C
D
1
2
3
4
001:A3 LEDCT2
001:A3 LEDCT1
001:A3 LEDCT0
001:A3 LED[0]
001:A3 LED[1]
001:A3 LED[2]
0.25W 82 R3
0.25W 82 R4
0.25W 82 R5
LN376GCPX-2UT
LED1
LED3
LED2
LNJ876LKDEAB
LED14
LED4
LED5
LED6
001:E1 SCN[0]
001:E1 SCN[5]
+5V
Q4
DTA143ZSA
Q5
DTA143ZSA
001:A4 SWCT0
001:A4 SWCT1
ESE11SV7
SW101
SW102
SW103
SW104
R1 4.7K 0.25W
R2 4.7K 0.25W
GND
+5VP
R17 470 0.25W
LED9
ENERGY-SAVER LED
001:A3 pLEDSLP
DTC143ZSA
Q3
001:A3 pLEDON0
Q1
001:A4 pLEDON1
Q2
+24V
R10 2.2K 0.25W
R11 2.2K 0.25W
R12 2.2K 0.25W
R13 2.2K 0.25W
JP1
LED7
LED10
LED12
LED8
LED11
LED13
ACTIVE
ALARM
DOING Lamp Boad

	SW101	SW102	SW103	SW104
41～60	ON	ON	OFF	OFF
21～40	OFF	ON	ON	OFF
01～20	OFF	OFF	ON	ON
—	OFF	ON	OFF	OFF
	OFF	OFF	ON	OFF
	OFF	OFF	OFF	OFF

△	P-Model Mounted F-Model Mounted
○	P-Model Not Mounted F-Model Not Mounted

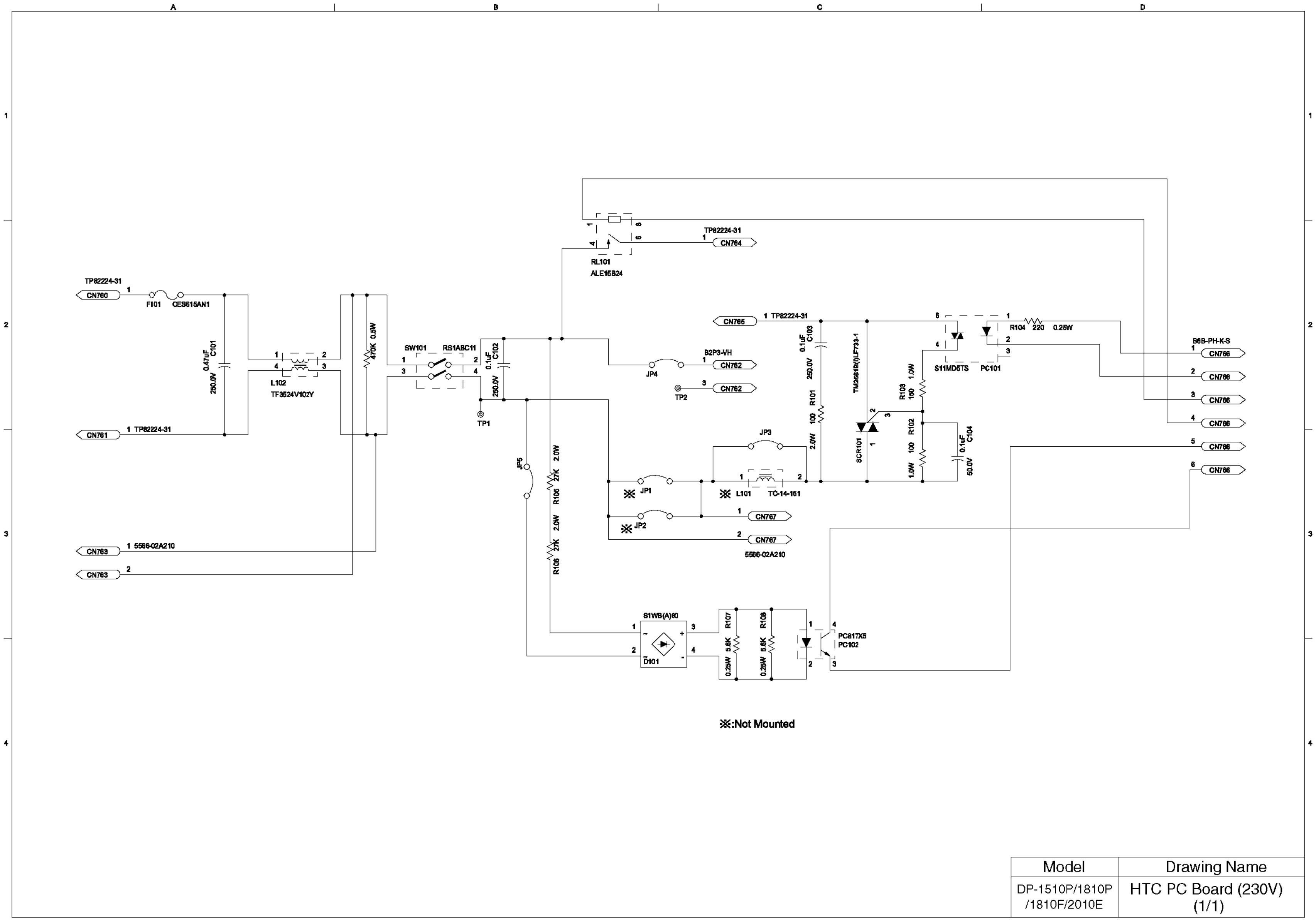
Model	Drawing Name
DP-1510P/1810P /1810F/2010E	PNL2 PC Board (2/2)

9.9. HTC PC Board (120V)

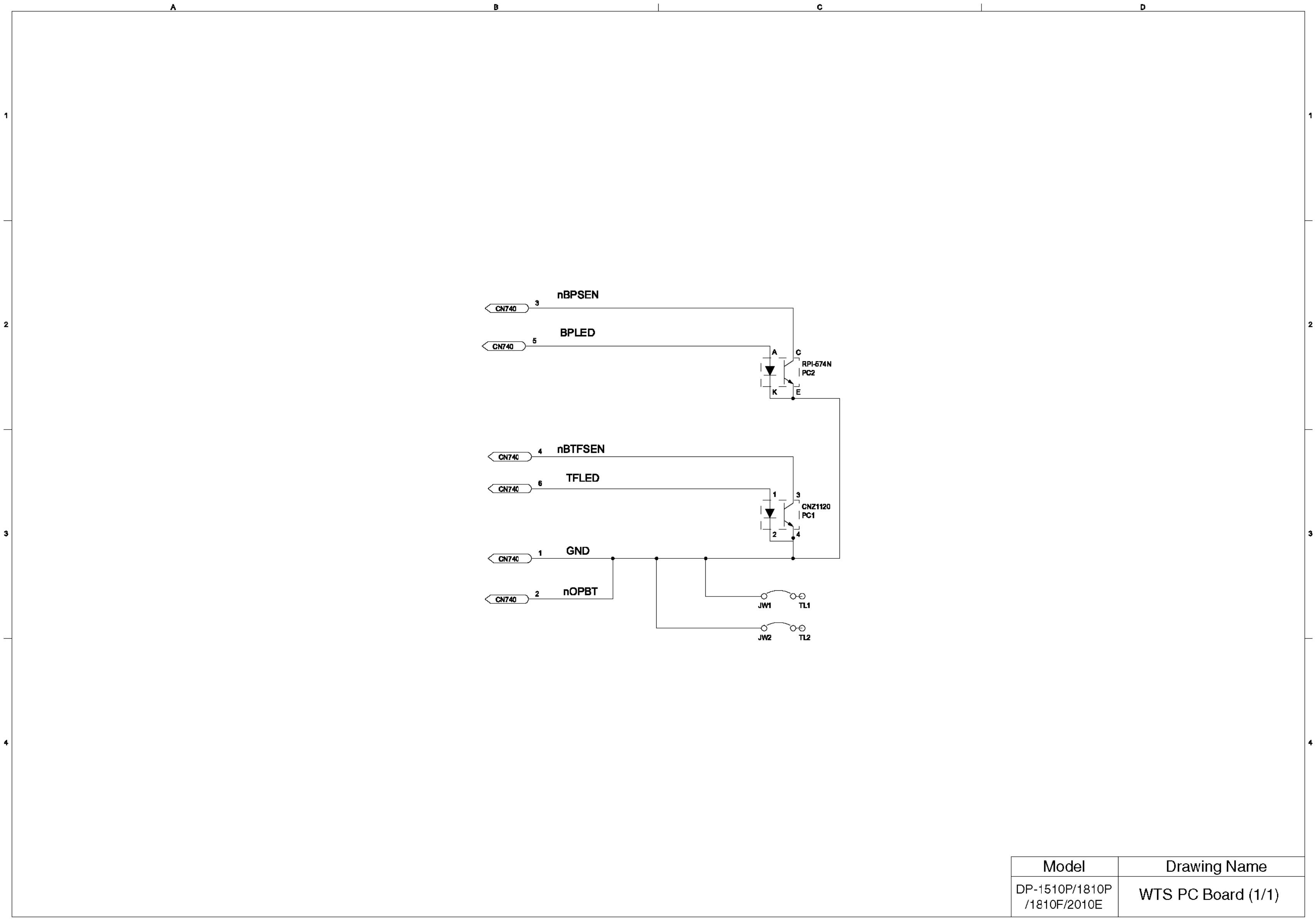

A
B
C
D
1
2
3
4
TP82224-31
CN760
1
F101
CES815AN1
※
0.47uF
C101
250.0V
CN761
1 TP82224-31
L102
TF3524V102Y
1
2
3
4
SW101
RS1ABC11
1
2
3
4
0.1uF
C102
250.0V
RL101
ALE15B24
TP82224-31
1
CN764
CN763
1 5566-02A210
CN763
2
JP5
R105
12K
2.0W
*1
R106
12K
2.0W
*1
JP4
B2P3-VH
1
CN762
3
CN762
JP1
JP2
※ JP3
L101
TC-14-151
1
CN767
2
CN767
※ 5566-02A210
CN765
1 TP82224-31
0.1uF
C103
250.0V
R101
100
2.0W
TM2561B(0)LF733-1
SCR101
R103
150
1.0W
R102
100
1.0W
0.1uF
C104
50.0V
S11MD5TS
PC101
R104
220
0.25W
B8B-PH-K-S
1
2
3
4
5
6
CN766
S1WB(A)60
D101
R107
5.6K
0.25W
R108
5.6K
0.25W
PC817X5
PC102
*1 Domestic Model:12k
Others:15K
※:Not Mounted

Model	Drawing Name
DP-1510P/1810P /1810F/2010E	HTC PC Board (120V) (1/1)

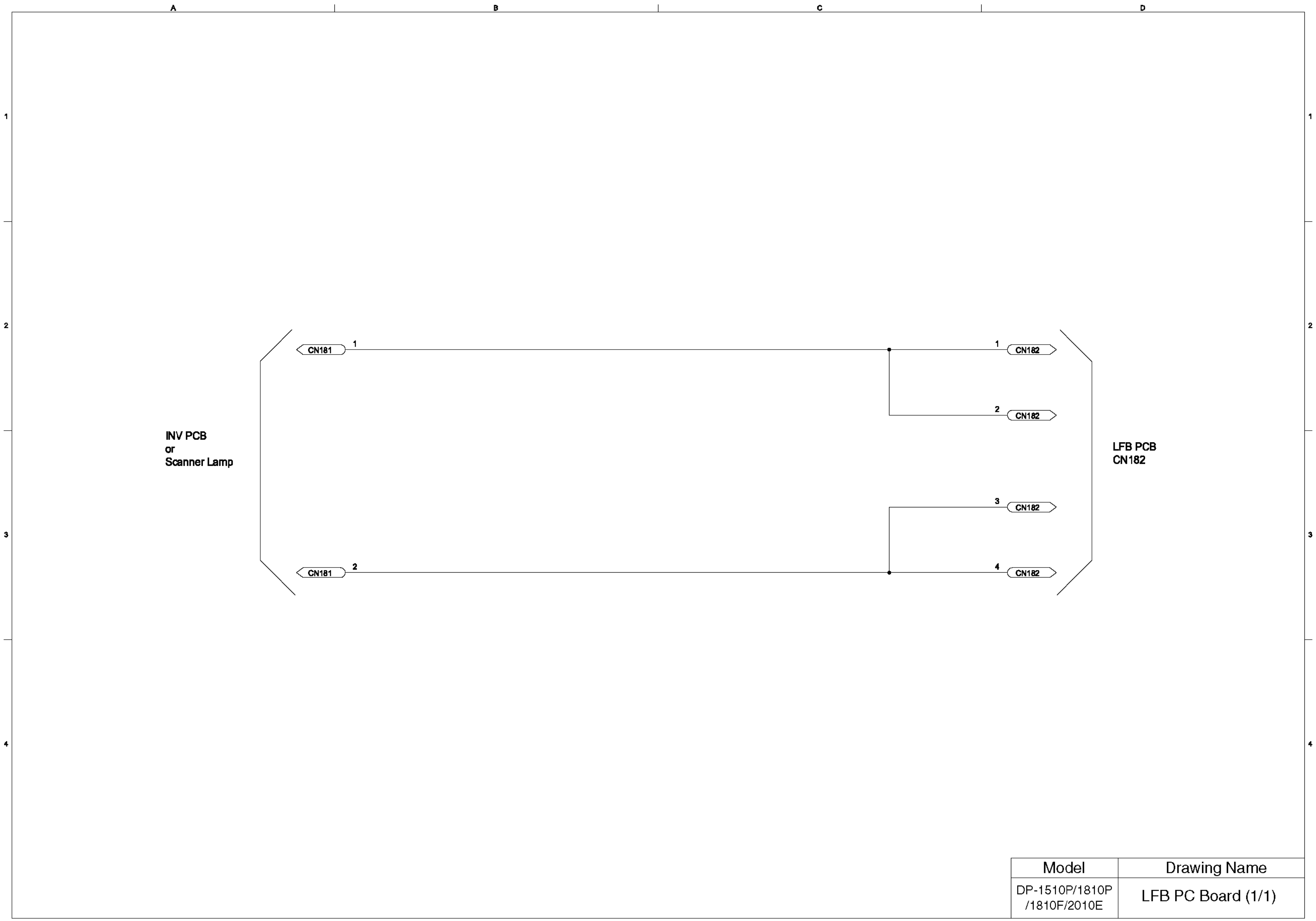
9.10. HTC PC Board (230V)


A
B
C
D
1
2
3
4
TP82224-31
CN760
F101
CES615AN1
C101
0.47uF
250.0V
CN761
1 TP82224-31
L102
TF3524V102Y
470K 0.5W
SW101
RS1ABC11
C102
0.1uF
250.0V
TP1
CN763
1 5566-02A210
RL101
ALE15B24
TP82224-31
CN764
CN765
1 TP82224-31
B2P3-VH
CN762
JP4
TP2
JP5
R105 27K 2.0W
R106 27K 2.0W
※ JP1
※ JP2
JP3
※ L101
TC-14-151
CN767
5566-02A210
C103
0.1uF
250.0V
R101 100 2.0W
TM2561B()LF73-1
SCR101
R103 150 1.0W
R102 100 1.0W
C104
0.1uF
50.0V
S11MD5TS
PC101
R104 220 0.25W
B6B-PH-K-S
CN766
S1WB(A)60
D101
R107 5.6K 0.25W
R108 5.6K 0.25W
PC817X5
PC102
※:Not Mounted
Model
Drawing Name
DP-1510P/1810P
/1810F/2010E
HTC PC Board (230V)
(1/1)

9.11. WTS PC Board

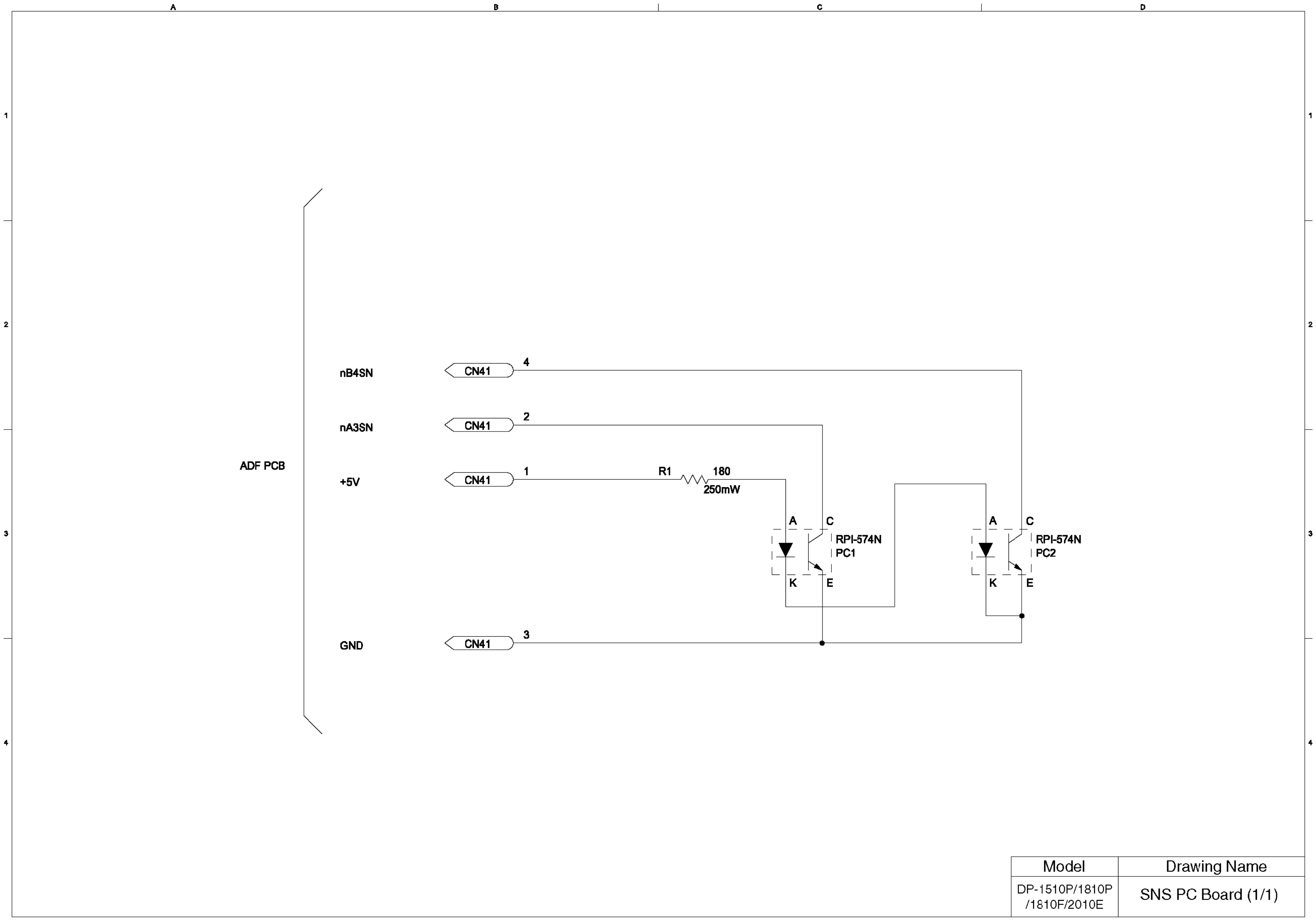

A
B
C
D
1
2
3
4
CN740
3
nBPSEN
CN740
5
BPLED
A
C
RPI-574N
PC2
K
E
CN740
4
nBTFSEN
CN740
6
TFLED
1
3
CNZ1120
PC1
2
4
CN740
1
GND
CN740
2
nOPBT
JW1
TL1
JW2
TL2
Model
Drawing Name
DP-1510P/1810P
/1810F/2010E
WTS PC Board (1/1)

9.12. LFB PC Board

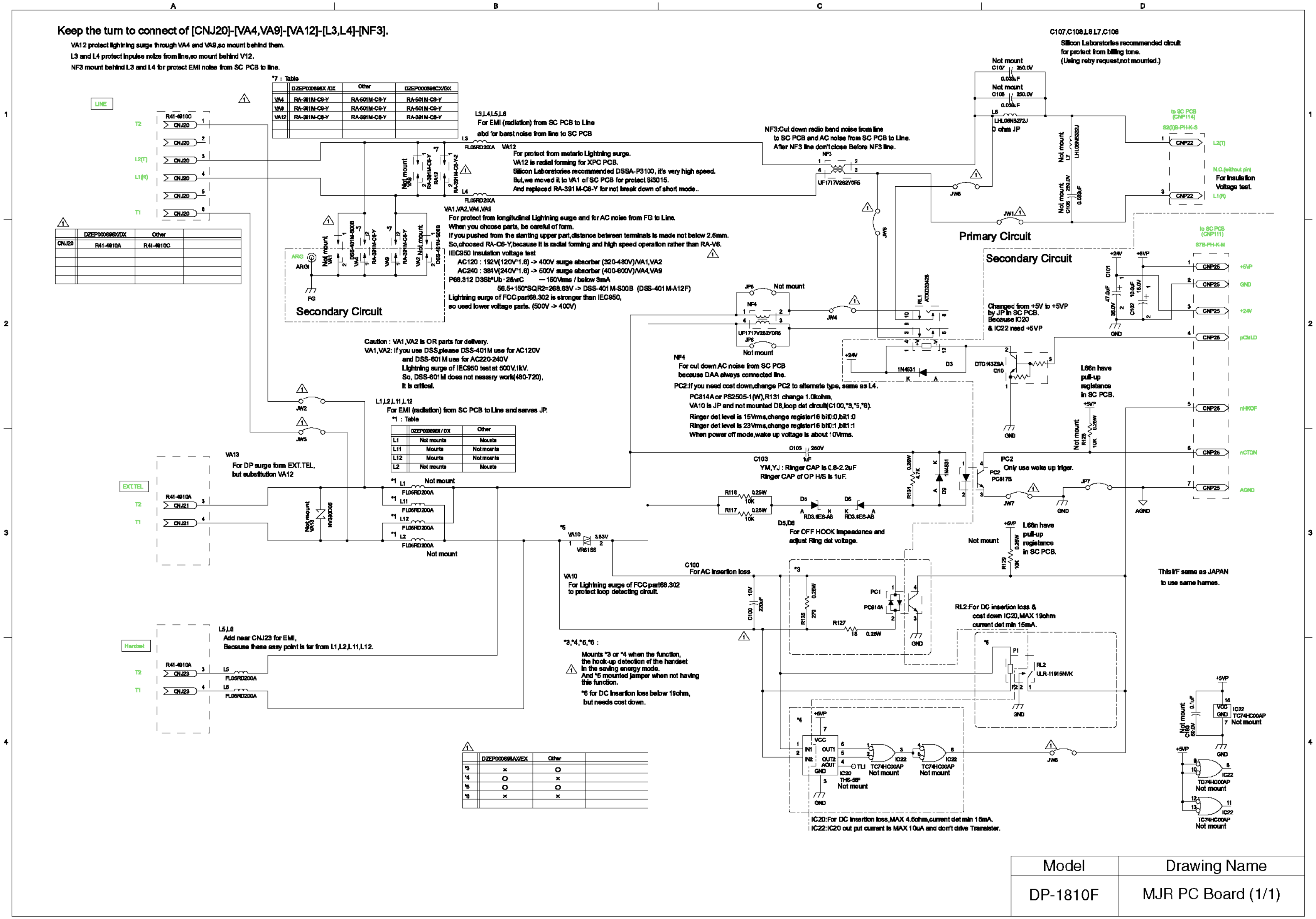

A
B
C
D
1
2
3
4
INV PCB
or
Scanner Lamp
CN181
1
CN181
2
1
CN182
2
CN182
3
CN182
4
CN182
LFB PCB
CN182

Model	Drawing Name
DP-1510P/1810P /1810F/2010E	LFB PC Board (1/1)

9.13. SNS PC Board


A
B
C
D
1
2
3
4
ADF PCB
nB4SN
nA3SN
+5V
GND
CN41
4
CN41
2
CN41
1
CN41
3
R1
180
250mW
A
C
K
E
RPI-574N
PC1
A
C
K
E
RPI-574N
PC2
Model
DP-1510P/1810P
/1810F/2010E
Drawing Name
SNS PC Board (1/1)

9.14. MJR PC Board (For DP-1810F Only)


A
B
C
D
1
2
3
4
Keep the turn to connect of [CNJ20]-[VA4,VA9]-[VA12]-[L3,L4]-[NF3].
VA12 protect lightning surge through VA4 and VA9,so mount behind them.
L3 and L4 protect inpulse noize from line,so mount behind V12.
NF3 mount behind L3 and L4 for protect EMI noise from SC PCB to line.
LINE
T2
L2(T)
L1(R)
T1
R41-4910C
CNJ20
*7 : Table
L3,L4,L5,L6
For EMI (radiation) from SC PCB to Line
abd for barst noise from line to SC PCB
L3
FL05RD200A
L4
VA12
For protect from metaric Lightning surge.
VA12 is radial forming for XPC PCB.
Silicon Laboratories recommended DSSA-P3100, it's very high speed.
But,we moved it to VA1 of SC PCB for protect Si3015.
And replaced RA-391M-C6-Y for not break down of short mode..
RA-391M-C6-Y
RA-391M-C6-Y-2
RA12
Not mount
VA9
VA1,VA2,VA4,VA9
For protect from longitudinal Lightning surge and for AC noise from FG to Line.
When you choose parts, be careful of form.
If you pushed from the slanting upper part,distance between terminals is made not below 2.5mm.
So,choosed RA-C6-Y,because it is radial forming and high speed operation rather than RA-V6.
IEC950 insulation voltage test
AC120 : 192V(120V*1.6) -> 400V surge absorber (320-480V)/VA1,VA2
AC240 : 384V(240V*1.6) -> 500V surge absorber (400-600V)/VA4,VA9
P68.312 D3Sb*Ub · 2&vrC —150Vrms / below 3mA
56.5+150*SQR2=268.63V -> DSS-401M-S00B (DSS-401M-A12F)
Lightning surge of FCC part68.302 is stronger than IEC950,
so used lower voltage parts. (500V -> 400V)
ARG
ARG1
FG
VA1
VA2
VA4
DSS-401M-S00B
Secondary Circuit
Caution : VA1,VA2 is OR parts for delivery.
VA1,VA2: If you use DSS,please DSS-401M use for AC120V
and DSS-601M use for AC220-240V
Lightning surge of IEC950 test at 500V,1kV.
So, DSS-601M does not nessary work(480-720),
It is critical.
JW2
JW3
L1,L2,L11,L12
For EMI (radiation) from SC PCB to Line and serves JP.
*1 : Table
EXT.TEL
R41-4910A
CNJ21
VA13
For DP surge form EXT.TEL,
but subsitution VA12
NV390D05
L1
L11
L12
L2
FL05RD200A
FL06RD200A
Not mount
Handset
CNJ23
L5,L6
Add near CNJ23 for EMI,
Because these easy point is far from L1,L2,L11,L12.
L5
L6
*5
VA10
3.83V
VR61SS
VA10
For Lightning surge of FCC part68.302
to protect loop detecting circuit.
*3,*4,*5,*6 :
Mounts *3 or *4 when the function,
the hook-up detection of the handset
in the saving energy mode.
And *5 mounted jamper when not having
this function.
*6 for DC insertion loss below 19ohm,
but needs cost down.
NF3:Cut down radio band noise from line
to SC PCB and AC noise from SC PCB to Line.
After NF3 line don't close Before NF3 line.
NF3
UF1717V282Y0R5
JW5
JW6
JW1
JP5
JP6
NF4
JW4
NF4
For cut down AC noise from SC PCB
because DAA always connected line.
PC2:If you need cost down,change PC2 to alternate type, same as L4.
PC814A or PS2505-1(W),R131 change 1.0kohm,
VA10 is JP and not mounted D8,loop det circuit(C100,*3,*5,*6).
Ringer det level is 15Vrms,change register16 bit0:0,bit1:0
Ringer det level is 23Vrms,change register16 bit0:1,bit1:1
When power off mode,wake up voltage is about 10Vrms.
C103
250V
1uF
C103
YM,YJ : Ringer CAP is 0.8-2.2uF
Ringer CAP of OP H/S is 1uF.
R116
R117
10K
0.25W
D5
D6
RD3.6ES-AB
D5,D6
For OFF HOOK impeadance and
adjust Ring det voltage.
R131
4.7K
D9
1N4531
C100
For AC insertion loss
C100
10V
220uF
*3
R125
270
R127
18
PC1
PC814A
GND
RL1
ATXD20428
+24V
D3
1N4531
Primary Circuit
Secondary Circuit
Changed from +5V to +5VP
by JP in SC PCB.
Because IC20
& IC22 need +5VP
DTC143ZSA
Q10
L66n have
pull-up
registance
in SC PCB.
+5VP
Not mount
R128
R129
10K
PC2
Only use wake up triger.
PC2
PC817B
JW7
JP7
AGND
RL2:For DC insertion loss &
cost down IC20,MAX 19ohm
current det min 15mA.
*6
P1
P2
RL2
ULR-11915NVK
*4
VCC
IN1
IN2
OUT1
OUT2
AOUT
IC20
THS-58F
Not mount
TL1
IC22
TC74HC00AP
Not mount
JW8
IC20:For DC insertion loss,MAX 4.5ohm,current det min 15mA.
IC22:IC20 out put current is MAX 10uA and don't drive Transistor.
C107,C108,L8,L7,C106
Silicon Laboratories recommended circuit
for protect from billing tone.
(Using retry request,not mounted.)
C107
C108
250.0V
0.033uF
L8
LHL08NB272J
0 ohm JP
L7
LHL08NB332J
C106
to SC PCB
(CNP114)
S2(3)B-PH-K-S
CNP22
L2(T)
N.C.(without pin)
For insulation
Voltage test.
L1(R)
to SC PCB
(CNP111)
S7B-PH-K-M
C101
47.0uF
35.0V
C102
10.0uF
16.0V
CNP25
+5VP
GND
+24V
pCNLD
nHKOF
nCTON
AGND
This I/F same as JAPAN
to use same harnes.
C183
0.1uF
50.0V
VCC
GND
14
7

	DZEP000698X/DX	Other	DZEP000698CX/GX
VA4	RA-391M-C6-Y	RA-501M-C6-Y	RA-501M-C6-Y
VA9	RA-391M-C6-Y	RA-501M-C6-Y	RA-501M-C6-Y
VA12	RA-391M-C6-Y	RA-391M-C6-Y	RA-391M-C6-Y

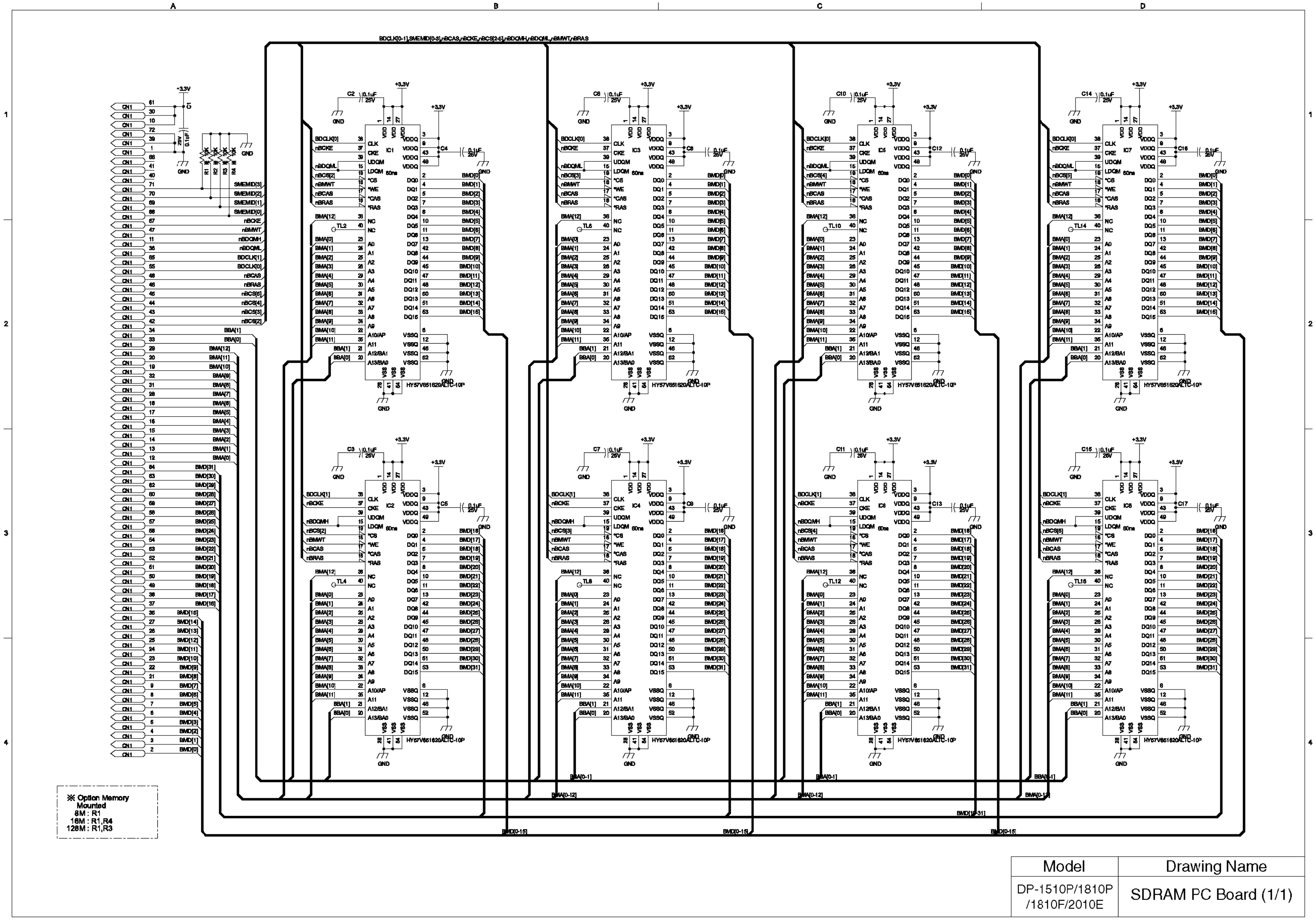
	DZEP000696X/DX	Other	
CNJ20	R41-4910A	R41-4910C	

	DZEP000698X / DX	Other
L1	Not mounts	Mounts
L11	Mounts	Not mounts
L12	Mounts	Not mounts
L2	Not mounts	Mounts

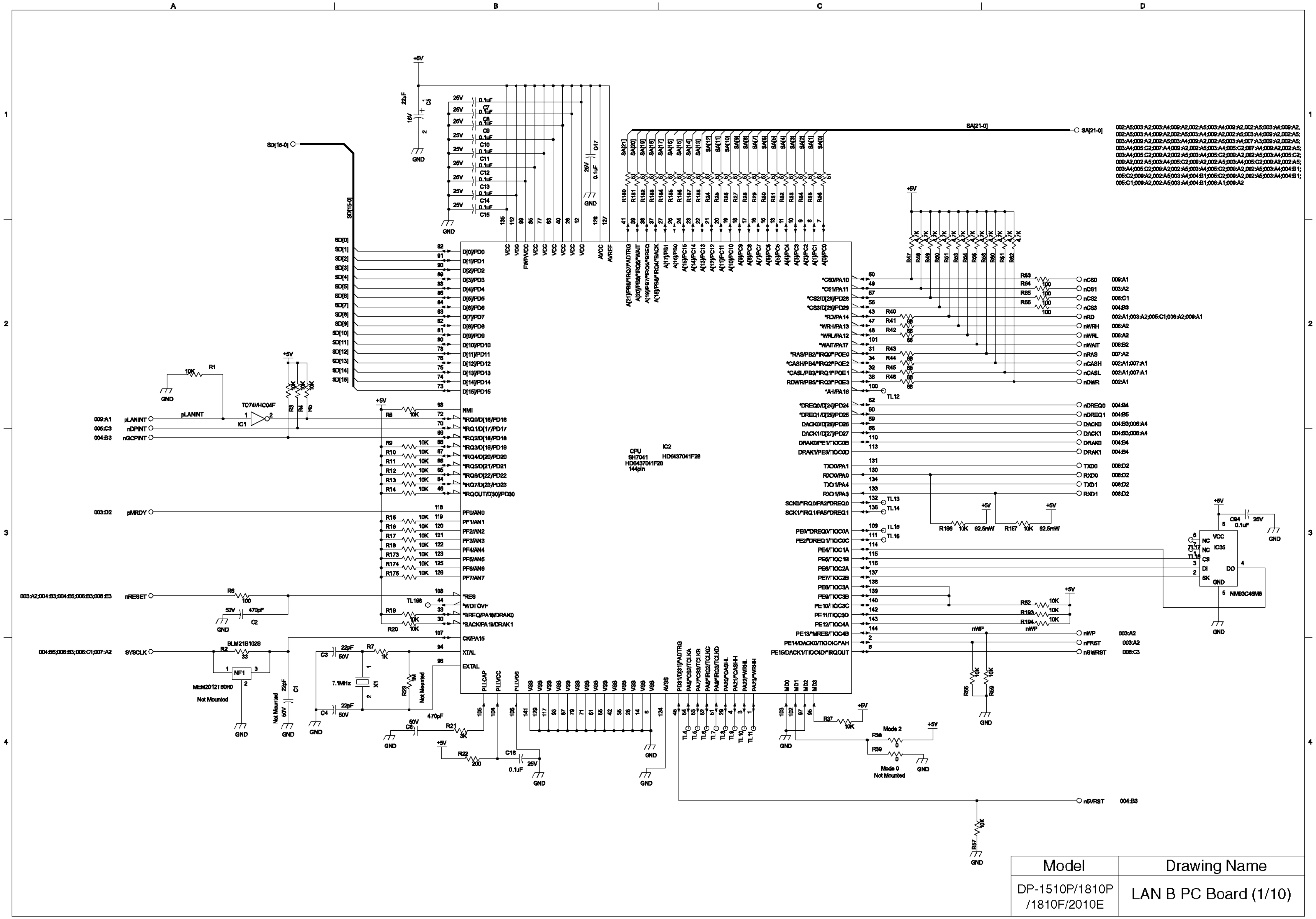
	DZEP000698AX/EX	Other	
*3	×	O	
*4	O	×	
*5	O	O	
*6	×	×	

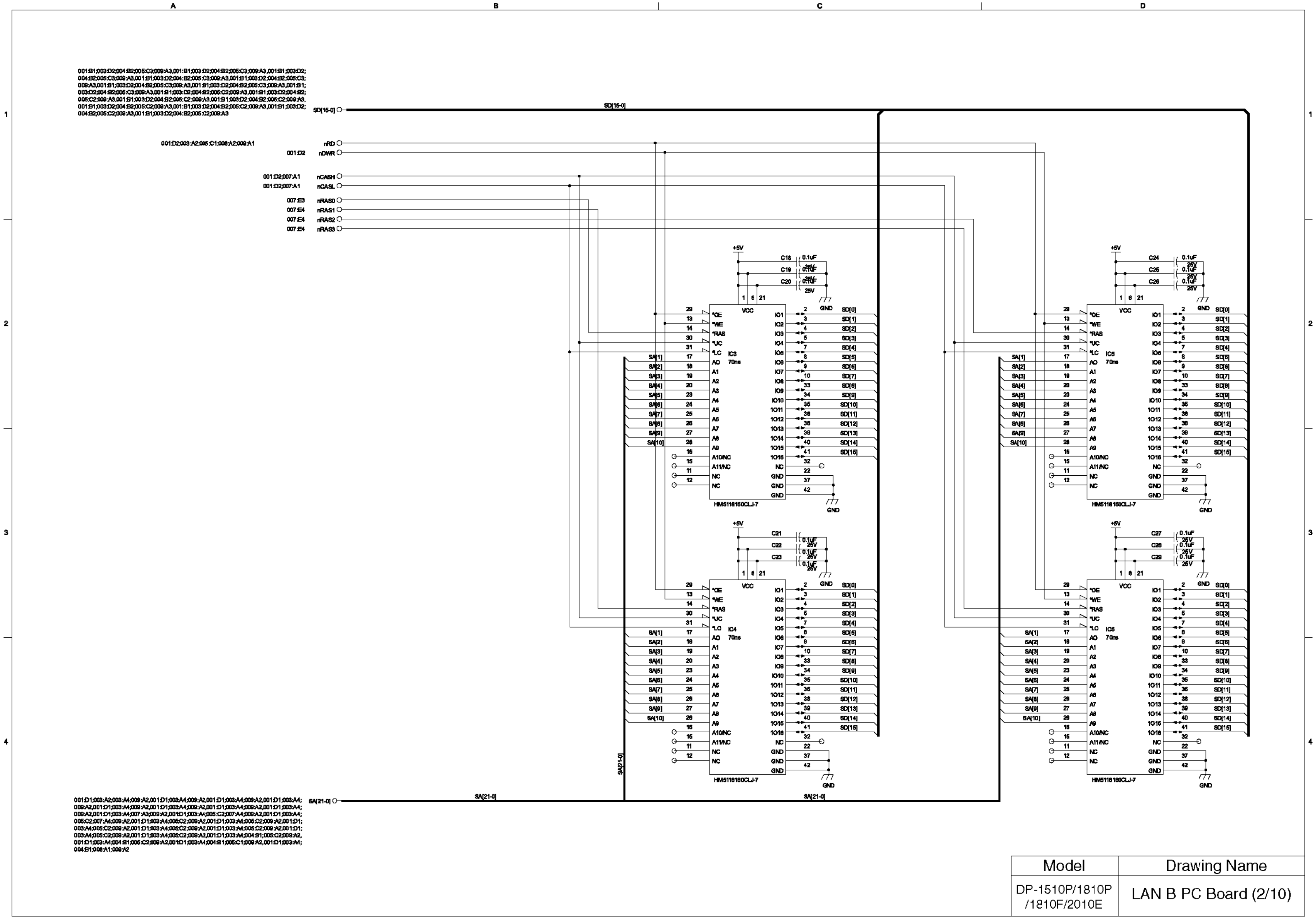
Model	Drawing Name
DP-1810F	MJR PC Board (1/1)

9.15. SDRM PC Board

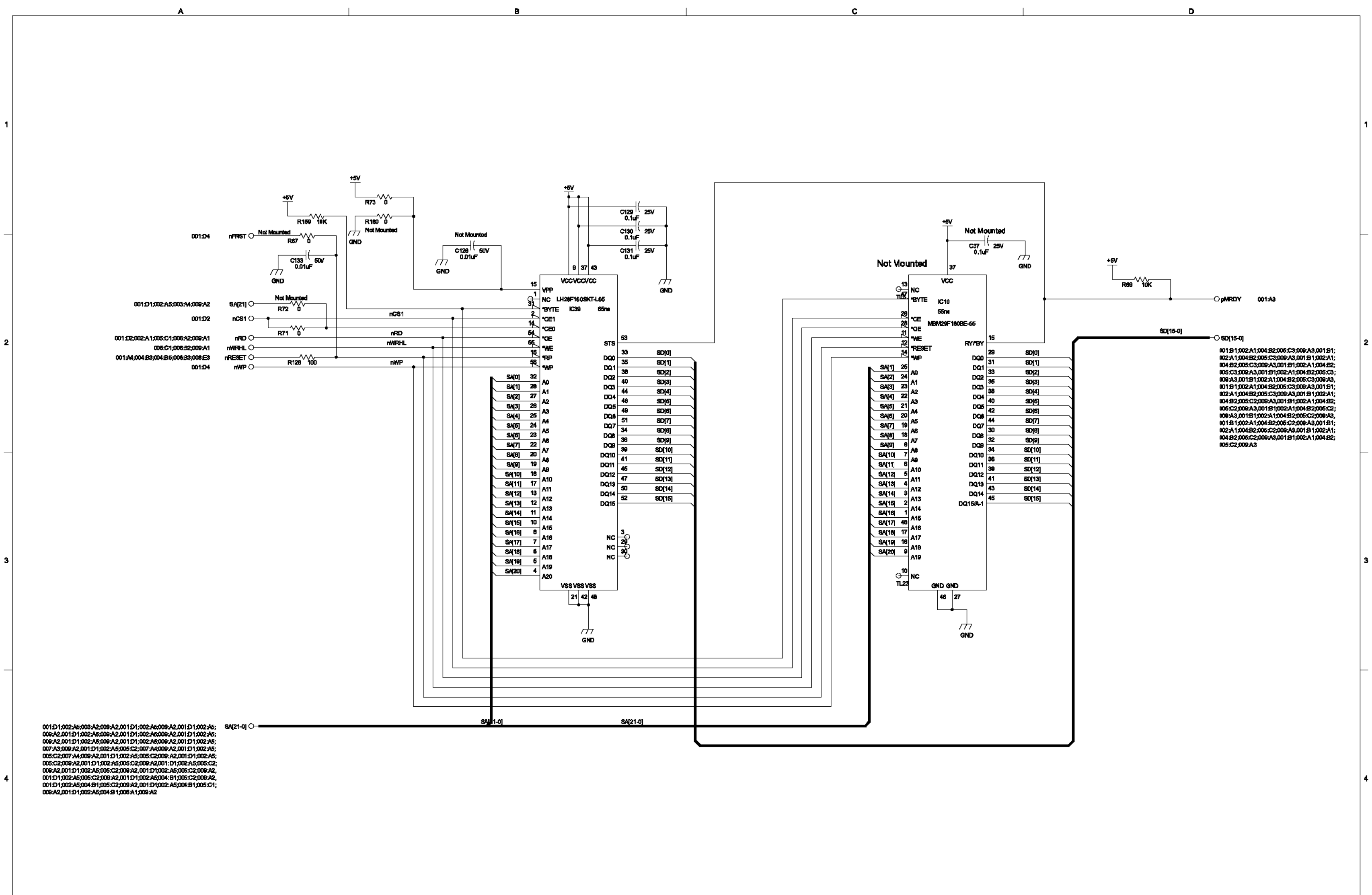

A
B
C
D
1
2
3
4
BDCLK[0-1],SMEMID[0-3],nBCAS,nBCKE,nBCS[2-5],nBDQMH,nBDQML,nBMWT,nBRAS
CN1
+3.3V
GND
R1
R2
R3
R4
C1
IC1
IC2
IC3
IC4
IC5
IC6
IC7
IC8
HY57V651620ALTC-10P
BBA[0-1]
BMA[0-12]
BMD[0-15]
BMD[16-31]
※ Option Memory
Mounted
8M : R1
16M : R1,R4
128M : R1,R3
Model
Drawing Name
DP-1510P/1810P
/1810F/2010E
SDRAM PC Board (1/1)

9.16. LANB PC Board

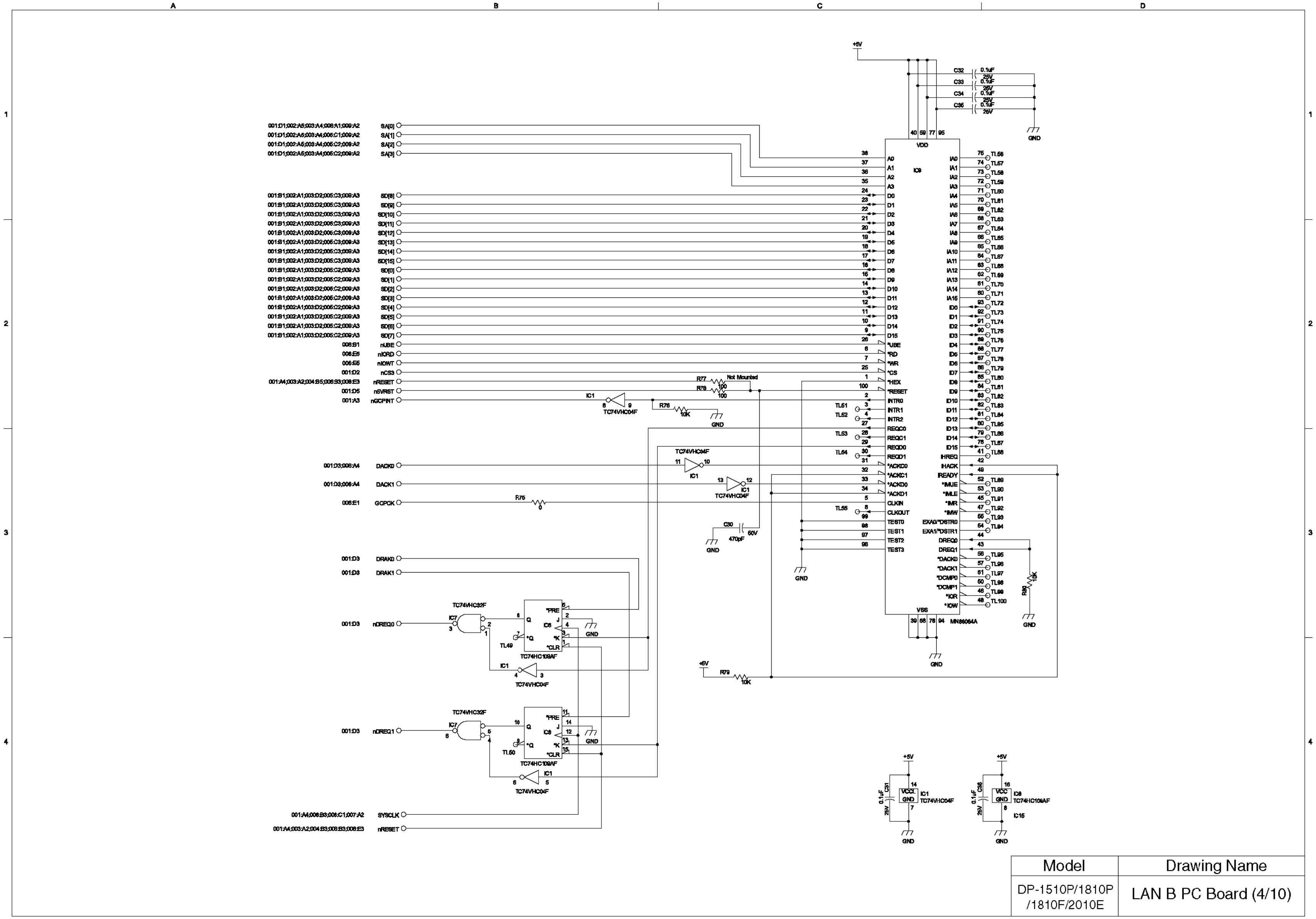

A
B
C
D
1
2
3
4
+5V
GND
SD[15-0]
SA[21-0]
CPU
SH7041
HD6437041F28
144pin
IC2
HD6437041F28
IC1
TC74VHC04F
pLANINT
nDPINT
nGCPINT
pMRDY
nRESET
SYSCLK
BLM21B102S
NF1
MEM2012T50R0
Not Mounted
7.1MHz
X1
nCS0
nCS1
nCS2
nCS3
nRD
nWRH
nWRL
nWAIT
nRAS
nCASH
nCASL
nDWR
nDREQ0
nDREQ1
DACK0
DACK1
DRAK0
DRAK1
TXD0
RXD0
TXD1
RXD1
IC35
NM93C46M8
VCC
NC
CS
DI
SK
GND
DO
nWP
nFRST
nSWRST
n5VRST
Mode 2
Mode 0
Not Mounted
Model
DP-1510P/1810P
/1810F/2010E
Drawing Name
LAN B PC Board (1/10)


A
B
C
D
1
2
3
4
001:B1;003:D2;004:B2;005:C3;009:A3,001:B1;003:D2;004:B2;005:C3;009:A3,001:B1;003:D2;
004:B2;005:C3;009:A3,001:B1;003:D2;004:B2;005:C3;009:A3,001:B1;003:D2;004:B2;005:C3;
009:A3,001:B1;003:D2;004:B2;005:C3;009:A3,001:B1;003:D2;004:B2;005:C3;009:A3,001:B1;
003:D2;004:B2;005:C3;009:A3,001:B1;003:D2;004:B2;005:C2;009:A3,001:B1;003:D2;004:B2;
005:C2;009:A3,001:B1;003:D2;004:B2;005:C2;009:A3,001:B1;003:D2;004:B2;005:C2;009:A3,
001:B1;003:D2;004:B2;005:C2;009:A3,001:B1;003:D2;004:B2;005:C2;009:A3,001:B1;003:D2;
004:B2;005:C2;009:A3,001:B1;003:D2;004:B2;005:C2;009:A3
SD[15-0]
001:D2;003:A2;005:C1;008:A2;009:A1
nRD
001:D2
nDWR
001:D2;007:A1
nCASH
001:D2;007:A1
nCASL
007:E3
nRAS0
007:E4
nRAS1
007:E4
nRAS2
007:E4
nRAS3
001:D1;003:A2;003:A4;009:A2,001:D1;003:A4;009:A2,001:D1;003:A4;009:A2,001:D1;003:A4;
009:A2,001:D1;003:A4;009:A2,001:D1;003:A4;009:A2,001:D1;003:A4;009:A2,001:D1;003:A4;
009:A2,001:D1;003:A4;007:A3;009:A2,001:D1;003:A4;005:C2;007:A4;009:A2,001:D1;003:A4;
005:C2;007:A4;009:A2,001:D1;003:A4;005:C2;009:A2,001:D1;003:A4;005:C2;009:A2,001:D1;
003:A4;005:C2;009:A2,001:D1;003:A4;005:C2;009:A2,001:D1;003:A4;005:C2;009:A2,001:D1;
003:A4;005:C2;009:A2,001:D1;003:A4;005:C2;009:A2,001:D1;003:A4;004:B1;005:C2;009:A2,
001:D1;003:A4;004:B1;005:C2;009:A2,001:D1;003:A4;004:B1;005:C1;009:A2,001:D1;003:A4;
004:B1;008:A1;009:A2
SA[21-0]
SA[21-0]
SA[21-0]
SA[21-0]
+5V
C18
C19
C20
C21
C22
C23
C24
C25
C26
C27
C28
C29
0.1uF
25V
VCC
1
6
21
GND
IC3
IC4
IC5
IC6
70ns
HM5118160CLJ-7
*OE
*WE
*RAS
*UC
*LC
A0
A1
A2
A3
A4
A5
A6
A7
A8
A9
A10/NC
A11/NC
NC
NC
29
13
14
30
31
17
18
19
20
23
24
25
26
27
28
16
15
11
12
SA[1]
SA[2]
SA[3]
SA[4]
SA[5]
SA[6]
SA[7]
SA[8]
SA[9]
SA[10]
IO1
IO2
IO3
IO4
IO5
IO6
IO7
IO8
IO9
IO10
IO11
IO12
IO13
IO14
IO15
IO16
NC
GND
GND
GND
2
3
4
5
7
8
9
10
33
34
35
36
38
39
40
41
32
22
37
42
SD[0]
SD[1]
SD[2]
SD[3]
SD[4]
SD[5]
SD[6]
SD[7]
SD[8]
SD[9]
SD[10]
SD[11]
SD[12]
SD[13]
SD[14]
SD[15]

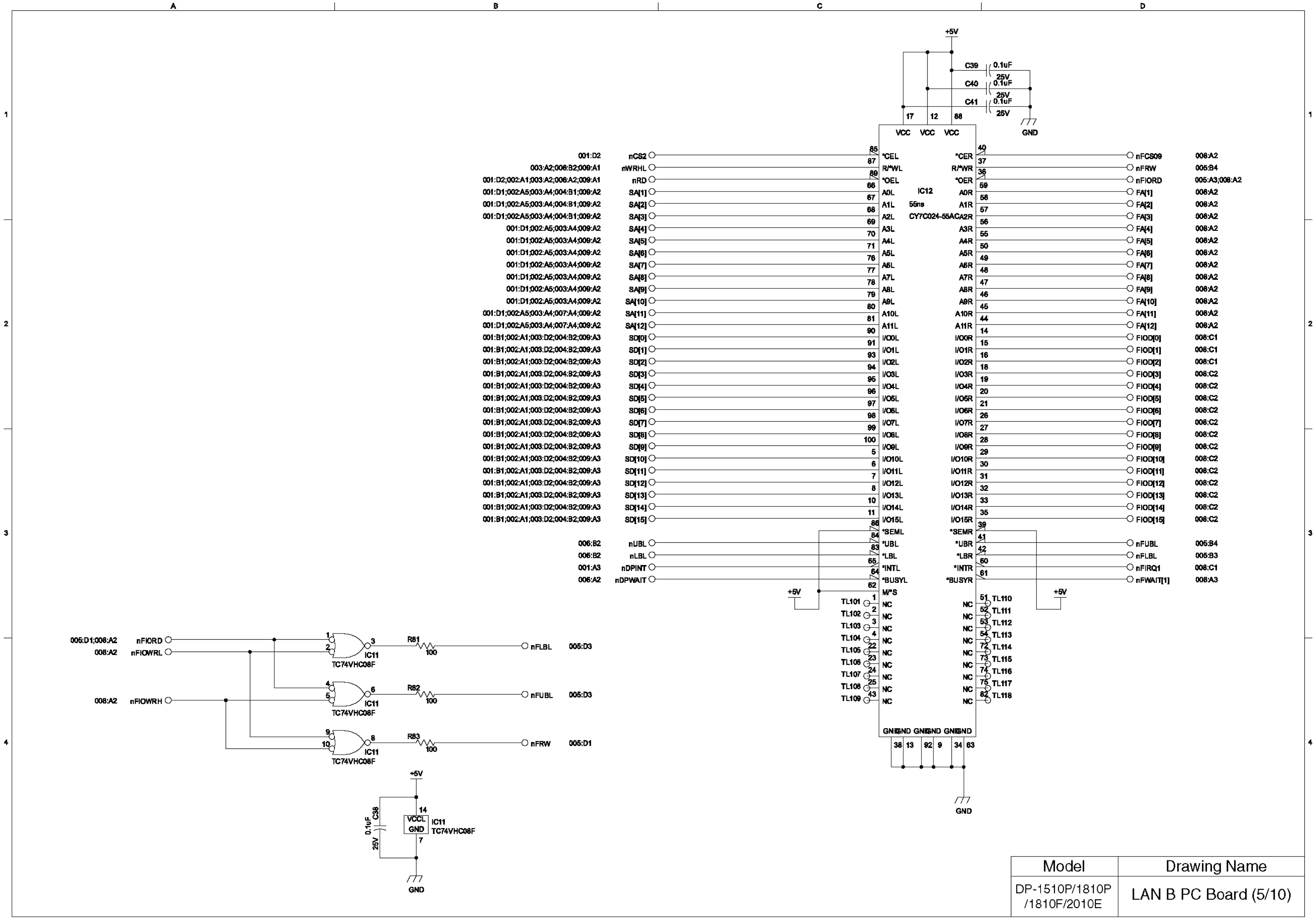
Model	Drawing Name
DP-1510P/1810P /1810F/2010E	LAN B PC Board (2/10)


A
B
C
D
1
2
3
4
+5V
R169 10K
R73 0
R160 0
Not Mounted
GND
001:D4 nFRST
Not Mounted
R67 0
C133 50V 0.01uF
C128 50V 0.01uF
Not Mounted
C129 25V 0.1uF
C130 25V 0.1uF
C131 25V 0.1uF
001:D1;002:A5;003:A4;009:A2 SA[21]
Not Mounted
R72 0
001:D2 nCS1
R71 0
001:D2;002:A1;005:C1;006:A2;009:A1 nRD
005:C1;006:B2;009:A1 nWRHL
001:A4;004:B3;004:B5;006:B3;006:E3 nRESET
R128 100
001:D4 nWP
nCS1
nRD
nWRHL
nWP
VCCVCCVCC
VPP
NC
*BYTE
*CE1
*CE0
*OE
*WE
*RP
*WP
LH28F160SKT-L65
IC39
65ns
STS
DQ0–DQ15
SD[0]–SD[15]
SA[0]–SA[20]
A0–A20
NC
VSS VSS VSS
Not Mounted
C37 25V 0.1uF
VCC
IC10
55ns
MBM29F160BE-55
*CE
*OE
*WE
*RESET
RY/*BY
DQ15/A-1
GND GND
TL23
+5V
R69 10K
pMRDY 001:A3
SD[15-0]
001:B1;002:A1;004:B2;005:C3;009:A3,001:B1;
002:A1;004:B2;005:C3;009:A3,001:B1;002:A1;
004:B2;005:C3;009:A3,001:B1;002:A1;004:B2;
005:C3;009:A3,001:B1;002:A1;004:B2;005:C3;
009:A3,001:B1;002:A1;004:B2;005:C3;009:A3,
001:B1;002:A1;004:B2;005:C3;009:A3,001:B1;
002:A1;004:B2;005:C3;009:A3,001:B1;002:A1;
004:B2;005:C2;009:A3,001:B1;002:A1;004:B2;
005:C2;009:A3,001:B1;002:A1;004:B2;005:C2;
009:A3,001:B1;002:A1;004:B2;005:C2;009:A3,
001:B1;002:A1;004:B2;005:C2;009:A3,001:B1;
002:A1;004:B2;005:C2;009:A3,001:B1;002:A1;
004:B2;005:C2;009:A3,001:B1;002:A1;004:B2;
005:C2;009:A3
SA[21-0]

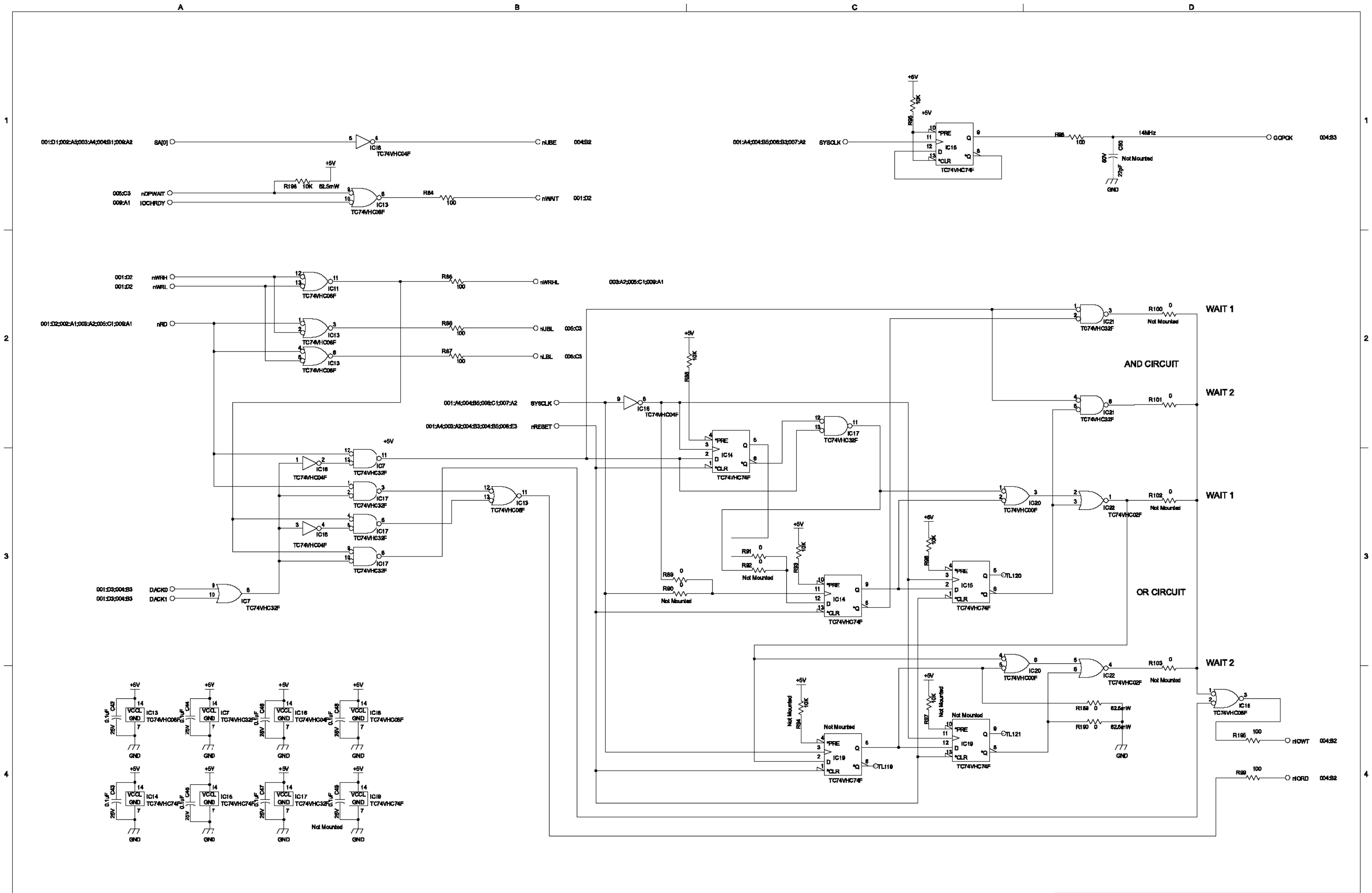
Model	Drawing Name
DP-1510P/1810P /1810F/2010E	LAN B PC Board (3/10)


A
B
C
D
1
2
3
4
+5V
C32
C33
C34
C35
0.1uF
25V
GND
VDD
VSS
IC9
MN86064A
A0
A1
A2
A3
D0
D1
D2
D3
D4
D5
D6
D7
D8
D9
D10
D11
D12
D13
D14
D15
*UBE
*RD
*WR
*CS
*HEX
*RESET
INTR0
INTR1
INTR2
REQC0
REQC1
REQD0
REQD1
*ACKC0
*ACKC1
*ACKD0
*ACKD1
CLKIN
CLKOUT
TEST0
TEST1
TEST2
TEST3
IA0
IA1
IA2
IA3
IA4
IA5
IA6
IA7
IA8
IA9
IA10
IA11
IA12
IA13
IA14
IA15
ID0
ID1
ID2
ID3
ID4
ID5
ID6
ID7
ID8
ID9
ID10
ID11
ID12
ID13
ID14
ID15
IHREQ
IHACK
IREADY
*IMUE
*IMLE
*IMR
*IMW
EXA0/*DSTR0
EXA1/*DSTR1
DREQ0
DREQ1
*DACK0
*DACK1
*DCMP0
*DCMP1
*IOR
*IOW
TL51
TL52
TL53
TL54
TL55
TL56
TL100
R80
10K
001:D1;002:A5;003:A4;006:A1;009:A2 SA[0]
001:D1;002:A5;003:A4;005:C1;009:A2 SA[1]
001:D1;002:A5;003:A4;005:C2;009:A2 SA[2]
001:D1;002:A5;003:A4;005:C2;009:A2 SA[3]
001:B1;002:A1;003:D2;005:C3;009:A3 SD[8]
001:B1;002:A1;003:D2;005:C3;009:A3 SD[9]
001:B1;002:A1;003:D2;005:C3;009:A3 SD[10]
001:B1;002:A1;003:D2;005:C3;009:A3 SD[11]
001:B1;002:A1;003:D2;005:C3;009:A3 SD[12]
001:B1;002:A1;003:D2;005:C3;009:A3 SD[13]
001:B1;002:A1;003:D2;005:C3;009:A3 SD[14]
001:B1;002:A1;003:D2;005:C3;009:A3 SD[15]
001:B1;002:A1;003:D2;005:C2;009:A3 SD[0]
001:B1;002:A1;003:D2;005:C2;009:A3 SD[1]
001:B1;002:A1;003:D2;005:C2;009:A3 SD[2]
001:B1;002:A1;003:D2;005:C2;009:A3 SD[3]
001:B1;002:A1;003:D2;005:C2;009:A3 SD[4]
001:B1;002:A1;003:D2;005:C2;009:A3 SD[5]
001:B1;002:A1;003:D2;005:C2;009:A3 SD[6]
001:B1;002:A1;003:D2;005:C2;009:A3 SD[7]
006:B1 nUBE
006:E5 nIORD
006:E5 nIOWT
001:D2 nCS3
001:A4;003:A2;004:B5;006:B3;008:E3 nRESET
001:D5 n5VRST
001:A3 nGCPINT
R77
Not Mounted
R78
100
IC1
TC74VHC04F
R76
10K
001:D3;006:A4 DACK0
001:D3;006:A4 DACK1
006:E1 GCPCK
R75
0
C30
470pF
50V
001:D3 DRAK0
001:D3 DRAK1
001:D3 nDREQ0
001:D3 nDREQ1
TC74VHC32F
IC7
IC8
TC74HC109AF
*PRE
J
*K
*CLR
Q
*Q
TL49
TL50
R79
10K
001:A4;006:B3;006:C1;007:A2 SYSCLK
001:A4;003:A2;004:B3;006:B3;008:E3 nRESET
C31
C36
VCC
IC15

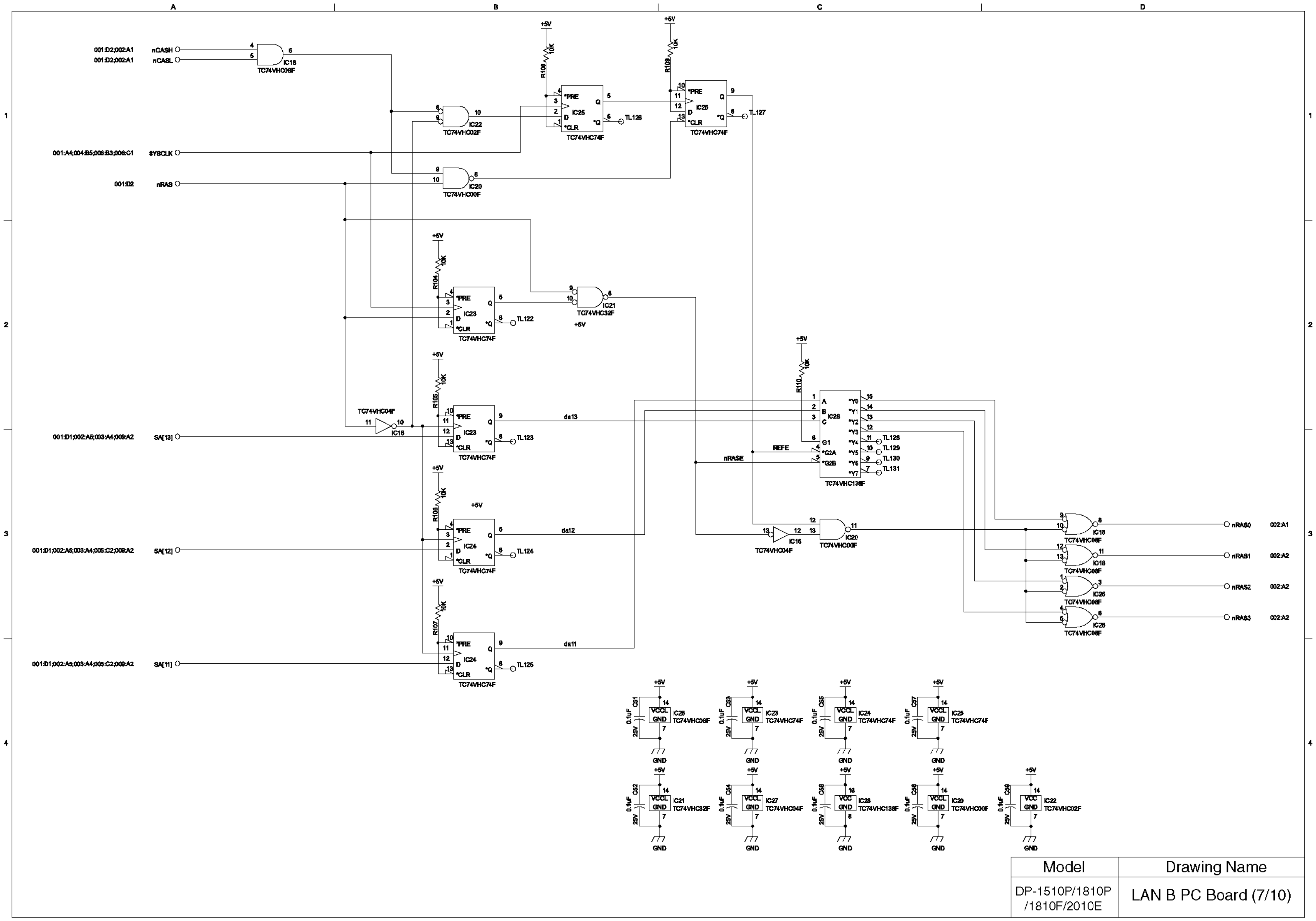
Model	Drawing Name
DP-1510P/1810P /1810F/2010E	LAN B PC Board (4/10)


A
B
C
D
1
2
3
4
+5V
C39 0.1uF 25V
C40 0.1uF 25V
C41 0.1uF 25V
GND
VCC VCC VCC
17 12 88
IC12
55ns
CY7C024-55ACA
*CEL
R/*WL
*OEL
A0L
A1L
A2L
A3L
A4L
A5L
A6L
A7L
A8L
A9L
A10L
A11L
I/O0L
I/O15L
*SEML
*UBL
*LBL
*INTL
*BUSYL
M/*S
*CER
R/*WR
*OER
A0R
A11R
I/O0R
I/O15R
*SEMR
*UBR
*LBR
*INTR
*BUSYR
NC
GND
38 13 92 9 34 63
001:D2 nCS2
003:A2;006:B2;009:A1 nWRHL
001:D2;002:A1;003:A2;006:A2;009:A1 nRD
SA[1]
SA[12]
SD[0]
SD[15]
006:B2 nUBL
006:B2 nLBL
001:A3 nDPINT
006:A2 nDPWAIT
nFCS09 006:A2
nFRW 005:B4
nFIORD 005:A3;006:A2
FA[1]
FA[12]
FIOD[0]
FIOD[15]
nFUBL 005:B4
nFLBL 005:B3
nFIRQ1 008:C1
nFWAIT[1] 008:A3
TL101
TL118
005:D1;008:A2 nFIORD
008:A2 nFIOWRL
008:A2 nFIOWRH
IC11
TC74VHC08F
R81 100
R82 100
R83 100
nFLBL 005:D3
nFUBL 005:D3
nFRW 005:D1
C38 0.1uF 25V
VCCL
GND
14
7

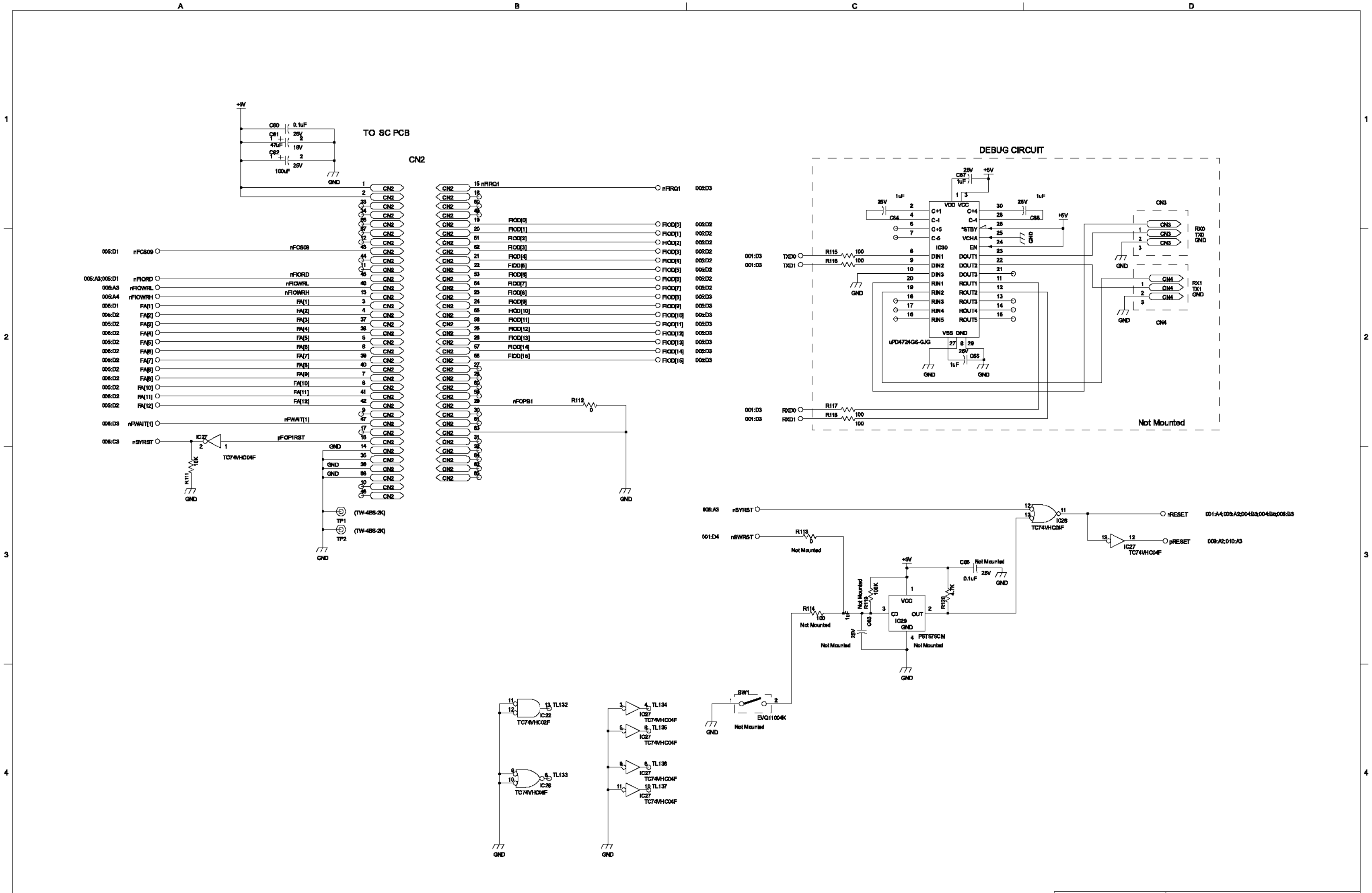
Model	Drawing Name
DP-1510P/1810P /1810F/2010E	LAN B PC Board (5/10)


A
B
C
D
1
2
3
4
001:D1;002:A5;003:A4;004:B1;009:A2
SA[0]
IC16
TC74VHC04F
nUBE
004:B2
+5V
R196
10K
62.5mW
005:C3
nDPWAIT
009:A1
IOCHRDY
IC13
TC74VHC08F
R84
100
nWAIT
001:D2
001:D2
nWRH
001:D2
nWRL
IC11
TC74VHC08F
R85
100
nWRHL
003:A2;005:C1;009:A1
001:D2;002:A1;003:A2;005:C1;009:A1
nRD
IC13
TC74VHC08F
R86
100
nUBL
005:C3
R87
100
nLBL
005:C3
001:A4;004:B5;008:C1;007:A2
SYSCLK
001:A4;003:A2;004:B3;004:B5;008:E3
nRESET
IC7
TC74VHC32F
IC17
TC74VHC32F
DACK0
DACK1
001:D3;004:B3
001:D3;004:B3
R88
10K
IC14
*PRE
D
*CLR
Q
*Q
TC74VHC74F
R89
0
R90
0
Not Mounted
R91
0
R92
0
Not Mounted
R93
10K
IC15
TC74VHC74F
R95
R96
IC19
TC74VHC74F
R94
R97
Not Mounted
TL119
TL120
TL121
IC20
TC74VHC00F
IC21
TC74VHC32F
IC22
TC74VHC02F
R100
0
Not Mounted
R101
0
R102
0
Not Mounted
R103
0
Not Mounted
WAIT 1
WAIT 2
WAIT 1
WAIT 2
AND CIRCUIT
OR CIRCUIT
R189
0
62.5mW
R190
0
62.5mW
GND
IC18
TC74VHC08F
R195
100
nIOWT
004:B2
R99
100
nIORD
004:B2
R98
100
14MHz
C50
Not Mounted
50V
22pF
GOPCK
004:B3
C42
C44
C46
C48
C43
C45
C47
C49
0.1uF
25V
VCCL
GND
14
7
IC13
TC74VHC08F
IC7
TC74VHC32F
IC16
TC74VHC04F
IC18
TC74VHC08F
IC14
TC74VHC74F
IC15
TC74VHC74F
IC17
TC74VHC32F
IC19
TC74VHC74F
Not Mounted

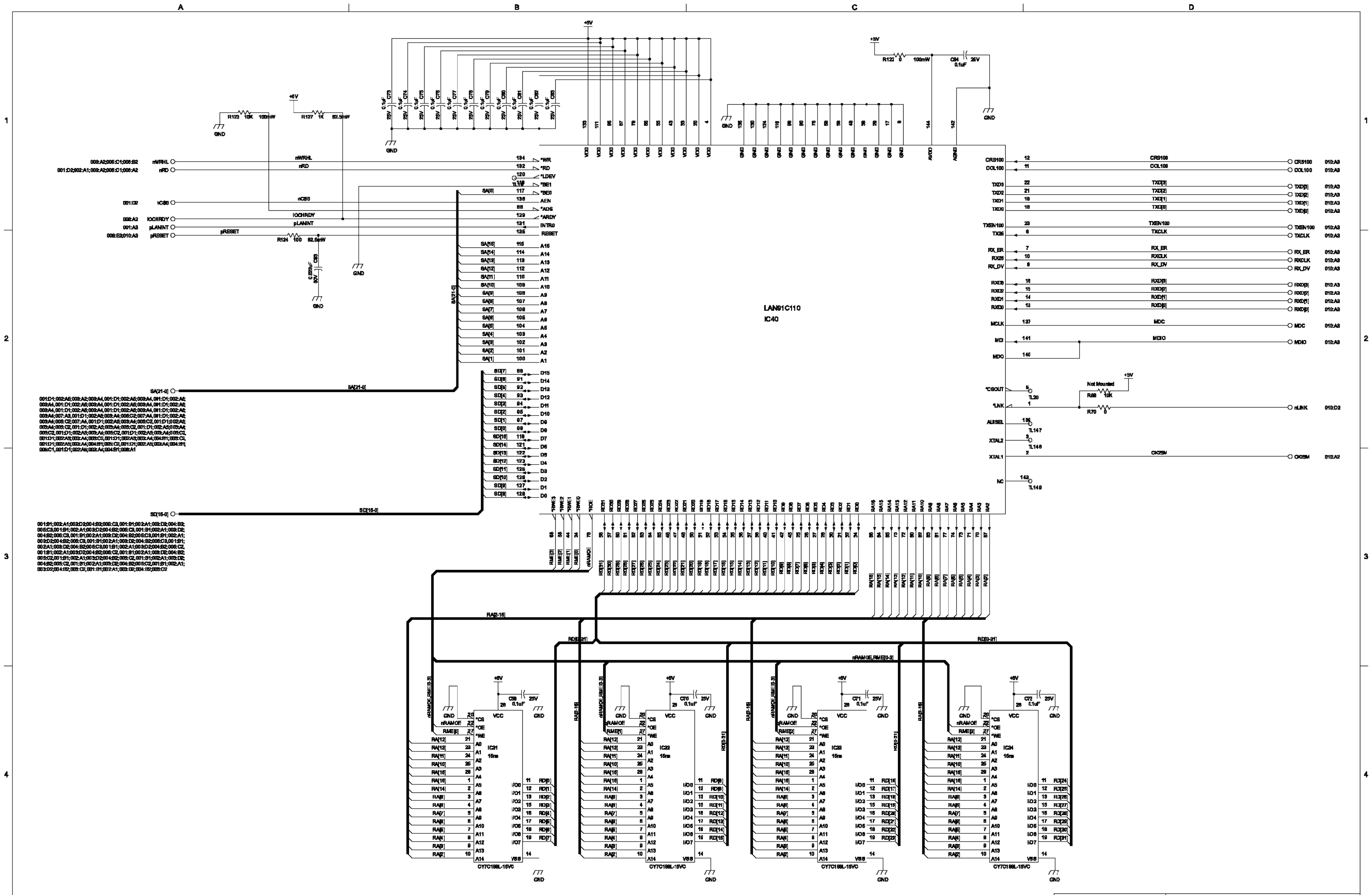
Model	Drawing Name
DP-1510P/1810P /1810F/2010E	LAN B PC Board (6/10)


A
B
C
D
1
2
3
4
001:D2;002:A1
nCASH
001:D2;002:A1
nCASL
IC18
TC74VHC08F
001:A4;004:B5;008:B3;006:C1
SYSCLK
001:D2
nRAS
IC22
TC74VHC02F
IC20
TC74VHC00F
+5V
R108
10K
R109
*PRE
D
*CLR
Q
*Q
IC25
TC74VHC74F
TL126
TL127
R104
IC23
TL122
IC21
TC74VHC32F
R105
TL123
da13
TC74VHC04F
IC16
001:D1;002:A5;003:A4;009:A2
SA[13]
R106
IC24
TL124
da12
001:D1;002:A5;003:A4;005:C2;009:A2
SA[12]
R107
TL125
da11
SA[11]
R110
A
B
C
G1
*G2A
*G2B
*Y0
*Y1
*Y2
*Y3
*Y4
*Y5
*Y6
*Y7
IC28
TC74VHC138F
TL128
TL129
TL130
TL131
REFE
nRASE
IC26
TC74VHC08F
nRAS0
002:A1
nRAS1
002:A2
nRAS2
002:A2
nRAS3
002:A2
VCCL
VCC
GND
0.1uF
25V
C51
C52
C53
C54
C55
C56
C57
C58
C59
IC27
TC74VHC04F
TC74VHC02F

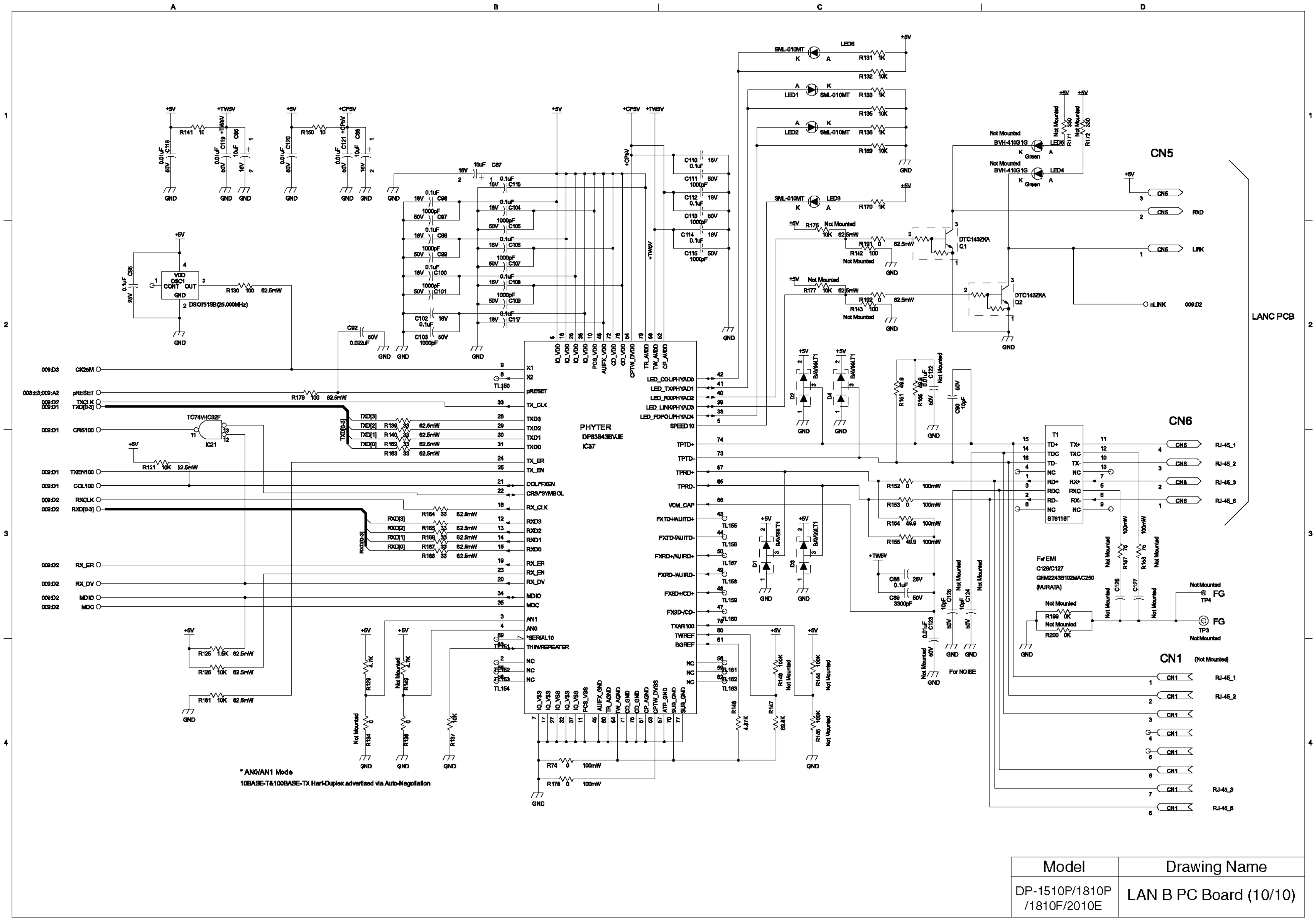
Model	Drawing Name
DP-1510P/1810P /1810F/2010E	LAN B PC Board (7/10)


A
B
C
D
1
2
3
4
+5V
C80
0.1uF
25V
C81
47uF
16V
C82
100uF
25V
GND
TO SC PCB
CN2
005:D1
nFCS09
005:A3;005:D1
nFIORD
005:A3
nFIOWRL
005:A4
nFIOWRH
FA[1]
FA[2]
FA[3]
FA[4]
FA[5]
FA[6]
FA[7]
FA[8]
FA[9]
FA[10]
FA[11]
FA[12]
006:D3
nFWAIT[1]
008:C3
nSYRST
IC27
TC74VHC04F
R111
10K
pFOP1RST
TP1
TP2
(TW-4BS-2K)
15 nFIRQ1
nFIRQ1
FIOD[0]
FIOD[1]
FIOD[2]
FIOD[3]
FIOD[4]
FIOD[5]
FIOD[6]
FIOD[7]
FIOD[8]
FIOD[9]
FIOD[10]
FIOD[11]
FIOD[12]
FIOD[13]
FIOD[14]
FIOD[15]
nFOPB1
R112
0
DEBUG CIRCUIT
C87
1uF
25V
C84
C86
VDD VCC
C+1
C-1
C+5
C-5
IC30
C+4
C-4
*STBY
VCHA
EN
DIN1
DIN2
DIN3
RIN1
RIN2
RIN3
RIN4
RIN5
DOUT1
DOUT2
DOUT3
ROUT1
ROUT2
ROUT3
ROUT4
ROUT5
VSS GND
uPD4724GS-GJG
C88
001:D3
TXD0
TXD1
RXD0
RXD1
R115
R116
R117
R118
100
CN3
RXD
TXD
CN4
RX1
TX1
Not Mounted
008:A3
nSYRST
001:D4
nSWRST
R113
IC28
TC74VHC08F
nRESET
001:A4;003:A2;004:B3;004:B4;006:B3
pRESET
009:A2;010:A3
R114
R119
R120
4.7K
100K
C83
1uF
C85
0.1uF
IC29
PST575CM
VCC
CI
OUT
SW1
EVQ11004K
TL132
TL133
TL134
TL135
TL136
TL137
C22
C28
TC74VHC02F
TC74VHC04F

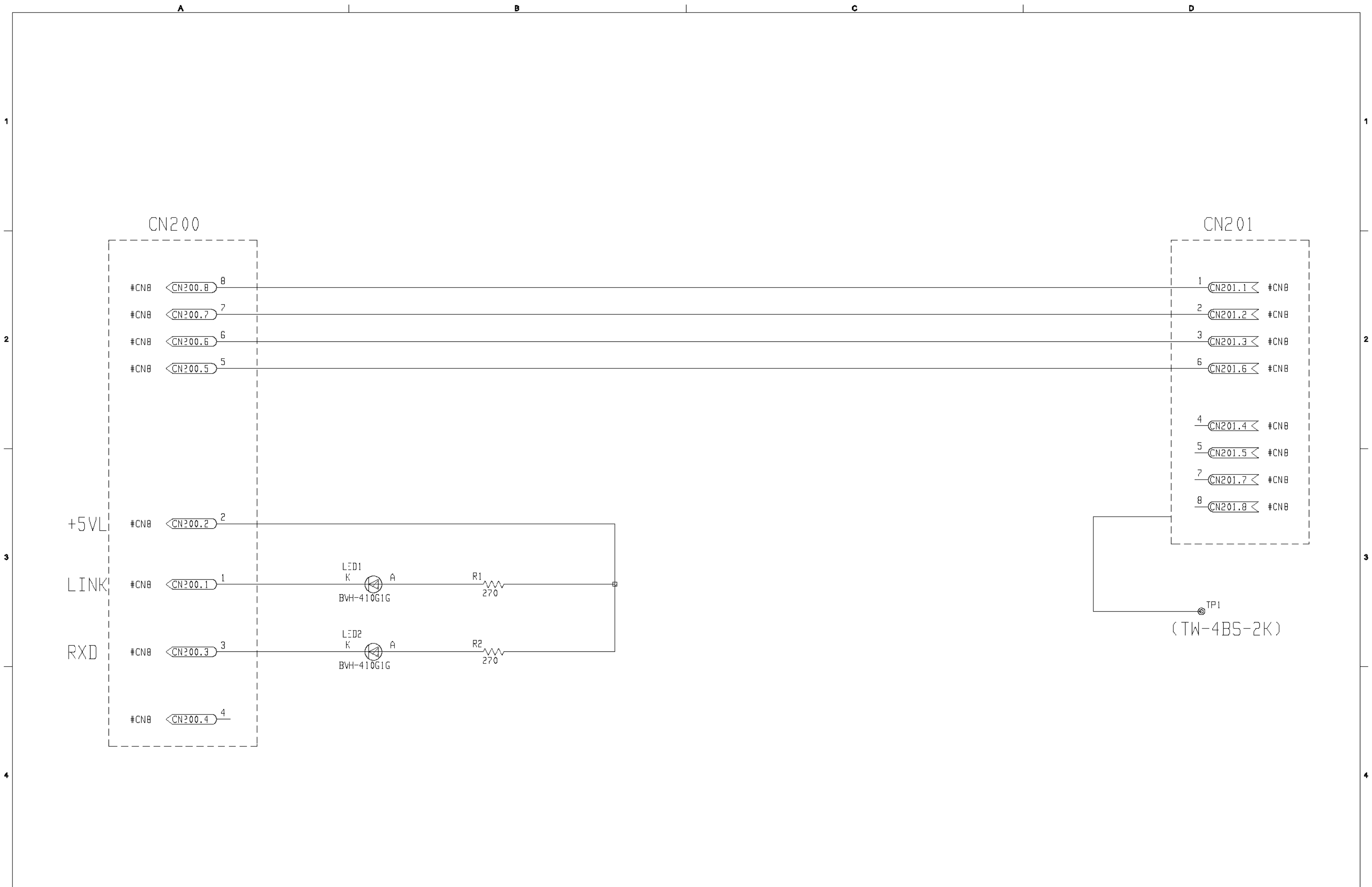
Model	Drawing Name
DP-1510P/1810P /1810F/2010E	LAN B PC Board (8/10)


A
B
C
D
1
2
3
4
LAN91C110
IC40
IC21
IC22
IC23
IC24
CY7C199L-15VC
+5V
GND
R122
R123
R124
R127
R88
R70
Not Mounted
SA[21-0]
SD[15-0]
RA[2-16]
RD[0-31]
nRAMOE,RME[0-3]
nWRHL
nRD
nCS0
IOCHRDY
pLANINT
pRESET
CRS100
COL100
TXEN100
TXCLK
RX_ER
RXCLK
RX_DV
MDC
MDIO
nLINK
CK25M

Model	Drawing Name
DP-1510P/1810P /1810F/2010E	LAN B PC Board (9/10)

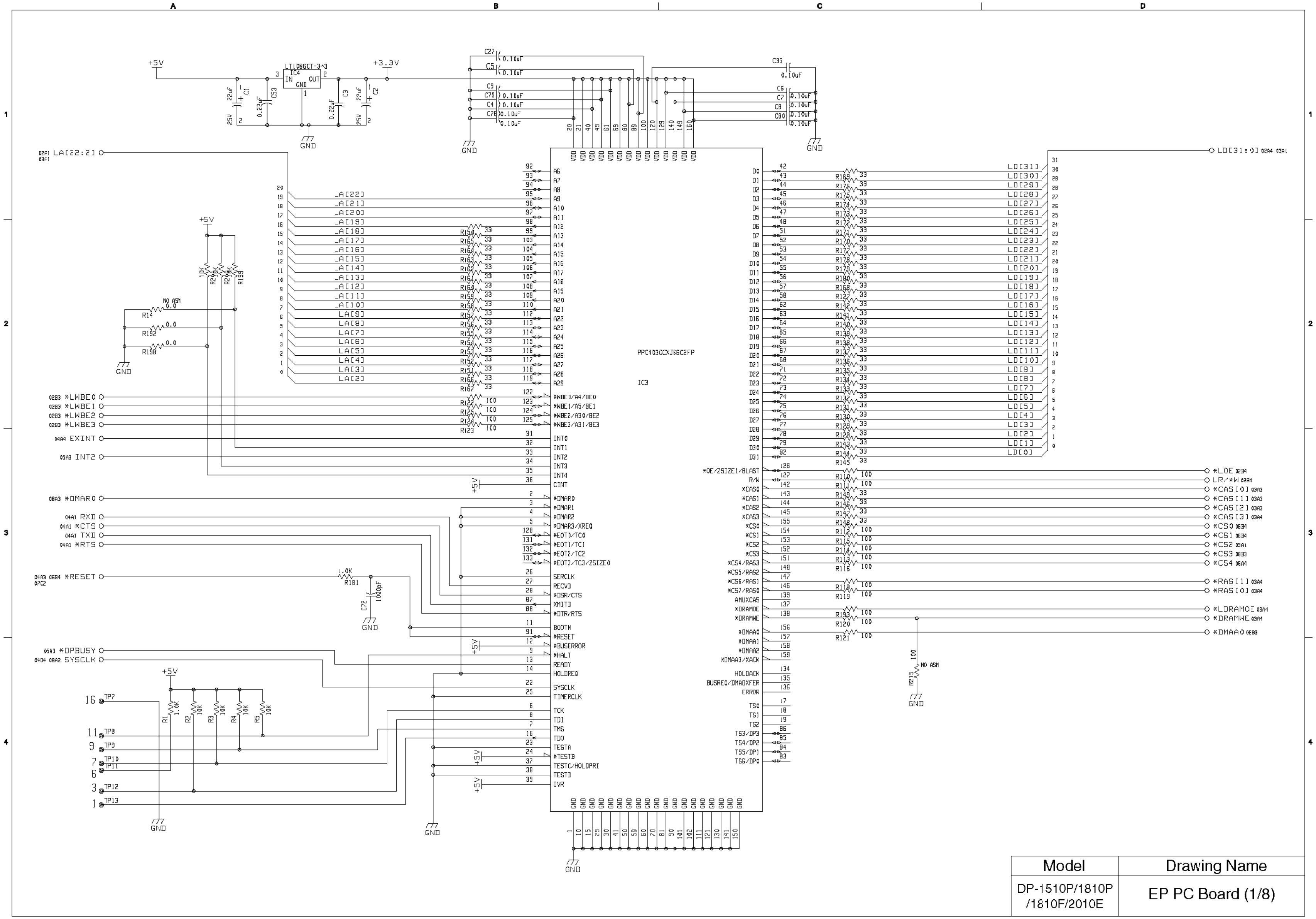

A
B
C
D
1
2
3
4
PHYTER
DP83843BVJE
IC37
CN5
CN6
CN1
(Not Mounted)
LANC PCB
RXD
LINK
nLINK
RJ-45_1
RJ-45_2
RJ-45_3
RJ-45_6
ST6118T
T1
FG
TP3
TP4
Not Mounted
For EMI
C126/C127
GHM2243B102MAC250
(MURATA)
For NOISE
DTC143ZKA
Q1
Q2
SML-010MT
LED1
LED2
LED3
LED6
BVH-410G1G
LED4
LED5
Green
OSC1
DSO751SB(25.000MHz)
TC74VHC32F
IC21
BAV99LT1
D1
D2
D3
D4
CK25M
pRESET
TXCLK
TXD[0-3]
CRS100
TXEN100
COL100
RXCLK
RXD[0-3]
RX_ER
RX_DV
MDIO
MDC
+5V
+TW5V
+CP5V
GND
* AN0/AN1 Mode
10BASE-T&100BASE-TX Harf-Duplex advertised via Auto-Negotiation
Model
Drawing Name
DP-1510P/1810P
/1810F/2010E
LAN B PC Board (10/10)

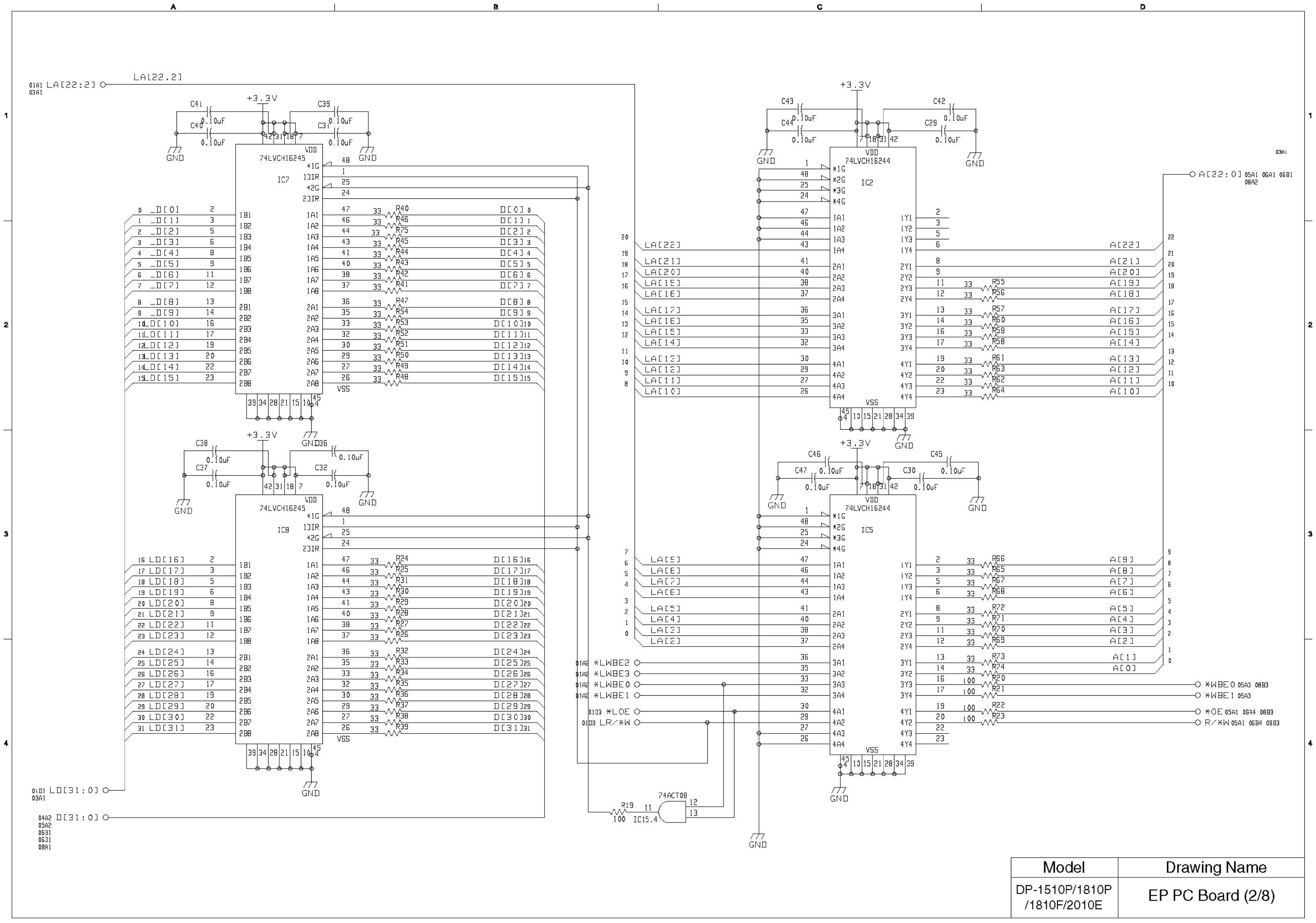
9.17. LANC PC Board


A
B
C
D
1
2
3
4
CN200
#CN8
CN200.8
8
CN200.7
7
CN200.6
6
CN200.5
5
+5VL
CN200.2
2
LINK
CN200.1
1
RXD
CN200.3
3
CN200.4
4
LED1
K
A
BVH-410G1G
R1
270
LED2
R2
CN201
CN201.1
CN201.2
CN201.3
CN201.6
CN201.4
CN201.5
CN201.7
CN201.8
TP1
(TW-4BS-2K)

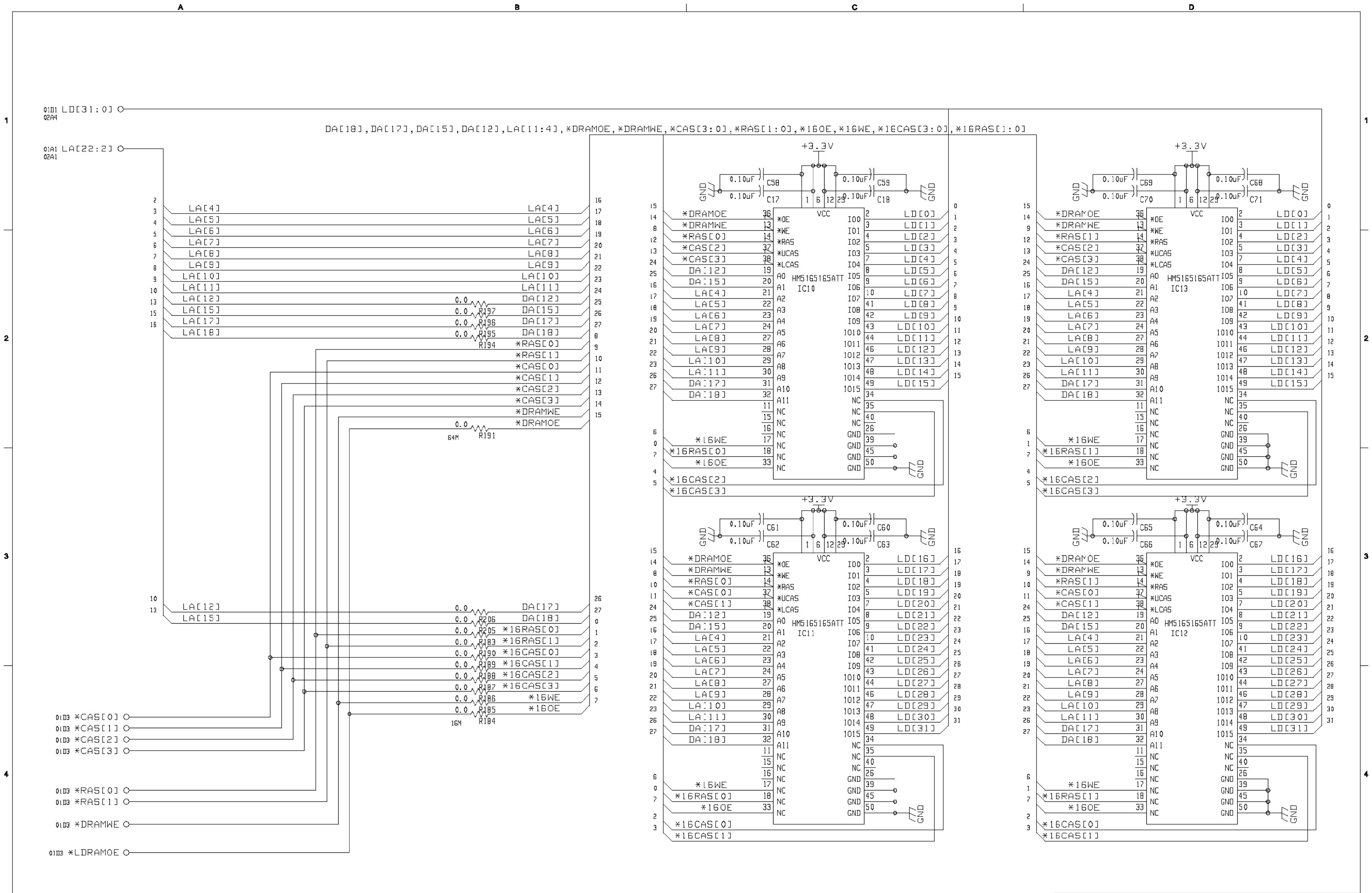
Model	Drawing Name
DP-1510P/1810P /1810F/2010E	LAN C PC Board (1/1)

9.18. EP PC Board

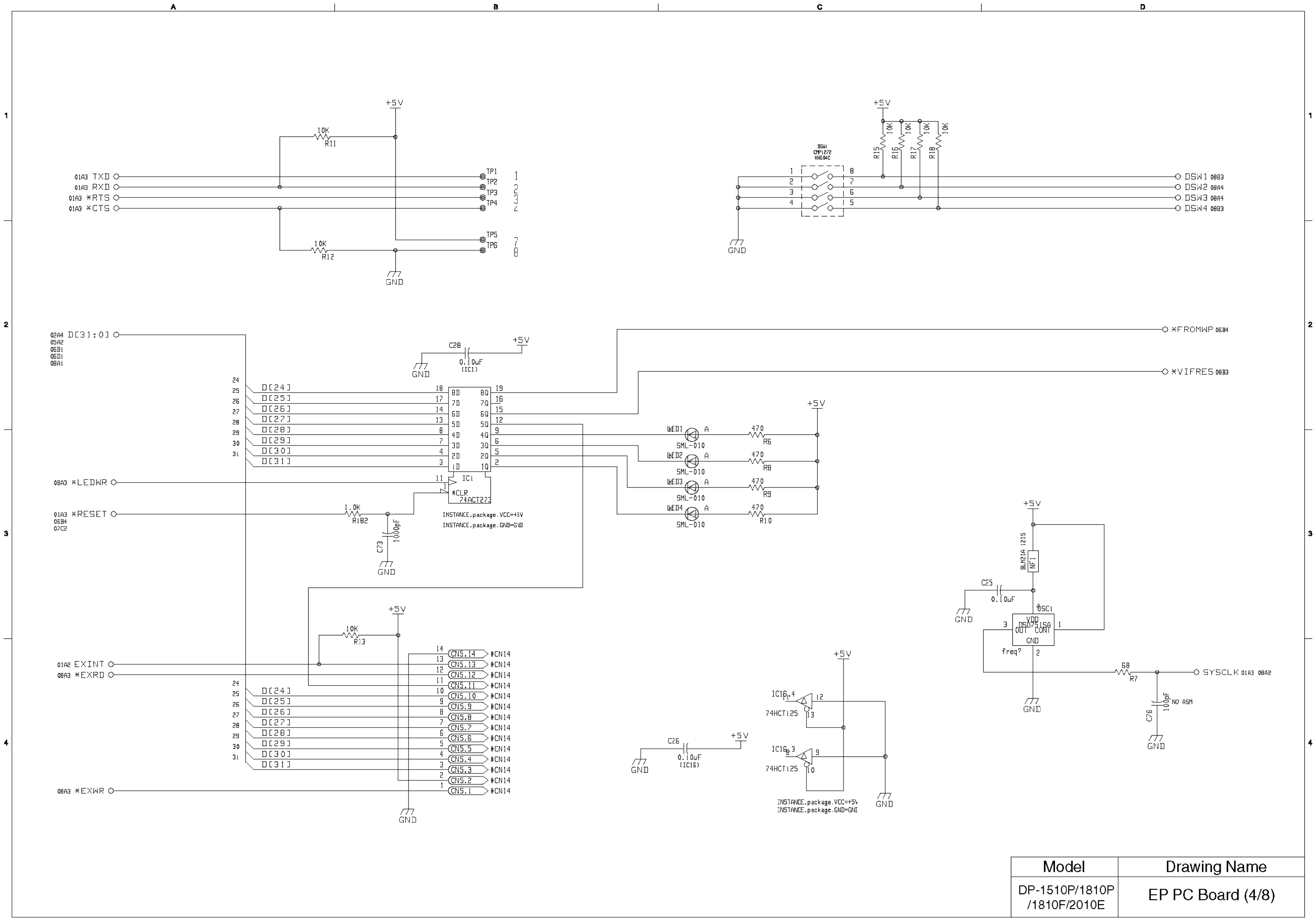

A
B
C
D
1
2
3
4
+5V
+3.3V
LT1086CT-3.3
IC4
IN
OUT
GND
C1
22uF
25V
C53
0.22uF
C3
0.22uF
C2
22uF
25V
C27
C5
C9
C79
C4
C78
C35
C6
C7
C8
C80
0.10uF
GND
PPC403GCXJ66C2FP
IC3
VDD
GND
LA[22:2]
LD[31:0]
*LWBE0
*LWBE1
*LWBE2
*LWBE3
EXINT
INT2
*DMAR0
RXD
*CTS
TXD
*RTS
*RESET
*DPBUSY
SYSCLK
TP7
TP8
TP9
TP10
TP11
TP12
TP13
R1
1.0K
R2
R3
R4
R5
10K
R14
R192
R198
NO ASM
0.0
R199
R200
R201
R181
1.0K
C72
1000pF
*WBE0/A4/BE0
*WBE1/A5/BE1
*WBE2/A30/BE2
*WBE3/A31/BE3
INT0
INT1
INT3
INT4
CINT
*DMAR1
*DMAR2
*DMAR3/XREQ
*EOT0/TC0
*EOT1/TC1
*EOT2/TC2
*EOT3/TC3/2SIZE0
SERCLK
RECVD
*DSR/CTS
XMITD
*DTR/RTS
BOOTW
*BUSERROR
*HALT
READY
HOLDREQ
TIMERCLK
TCK
TDI
TMS
TDO
TESTA
*TESTB
TESTC/HOLDPRI
TESTD
IVR
*OE/2SIZE1/BLAST
R/W
*CAS0
*CAS1
*CAS2
*CAS3
*CS0
*CS1
*CS2
*CS3
*CS4/RAS3
*CS5/RAS2
*CS6/RAS1
*CS7/RAS0
AMUXCAS
*DRAMOE
*DRAMWE
*DMAA0
*DMAA1
*DMAA2
*DMAA3/XACK
HOLDACK
BUSREQ/DMADXFER
ERROR
TS0
TS1
TS2
TS3/DP3
TS4/DP2
TS5/DP1
TS6/DP0
*LOE
LR/*W
*CAS[0]
*CAS[1]
*CAS[2]
*CAS[3]
*CS0
*CS1
*CS2
*CS3
*CS4
*RAS[1]
*RAS[0]
*LDRAMOE
*DRAMWE
*DMAA0
R215
33
100
Model
DP-1510P/1810P
/1810F/2010E
Drawing Name
EP PC Board (1/8)


A
B
C
D
1
2
3
4
LA[22:2]
LA[22.2]
LD[31:0]
D[31:0]
A[22:0]
+3.3V
GND
0.10uF
C41
C40
C39
C31
C38
C37
C36
C32
C43
C44
C42
C29
C46
C47
C45
C30
74LVCH16245
IC7
IC8
74LVCH16244
IC2
IC5
VDD
VSS
*1G
1DIR
*2G
2DIR
*3G
*4G
_D[0]
_D[1]
_D[2]
_D[3]
_D[4]
_D[5]
_D[6]
_D[7]
_D[8]
_D[9]
LD[10]
LD[11]
LD[12]
LD[13]
LD[14]
LD[15]
LD[16]
LD[17]
LD[18]
LD[19]
LD[20]
LD[21]
LD[22]
LD[23]
LD[24]
LD[25]
LD[26]
LD[27]
LD[28]
LD[29]
LD[30]
LD[31]
D[0]
D[1]
D[2]
D[3]
D[4]
D[5]
D[6]
D[7]
D[8]
D[9]
D[10]
D[11]
D[12]
D[13]
D[14]
D[15]
D[16]
D[17]
D[18]
D[19]
D[20]
D[21]
D[22]
D[23]
D[24]
D[25]
D[26]
D[27]
D[28]
D[29]
D[30]
D[31]
LA[22]
LA[21]
LA[20]
LA[19]
LA[18]
LA[17]
LA[16]
LA[15]
LA[14]
LA[13]
LA[12]
LA[11]
LA[10]
LA[9]
LA[8]
LA[7]
LA[6]
LA[5]
LA[4]
LA[3]
LA[2]
A[22]
A[21]
A[20]
A[19]
A[18]
A[17]
A[16]
A[15]
A[14]
A[13]
A[12]
A[11]
A[10]
A[9]
A[8]
A[7]
A[6]
A[5]
A[4]
A[3]
A[2]
A[1]
A[0]
*LWBE2
*LWBE3
*LWBE0
*LWBE1
*LOE
LR/*W
*WBE0
*WBE1
*OE
R/*W
74ACT08
IC15.4
R19
100
33

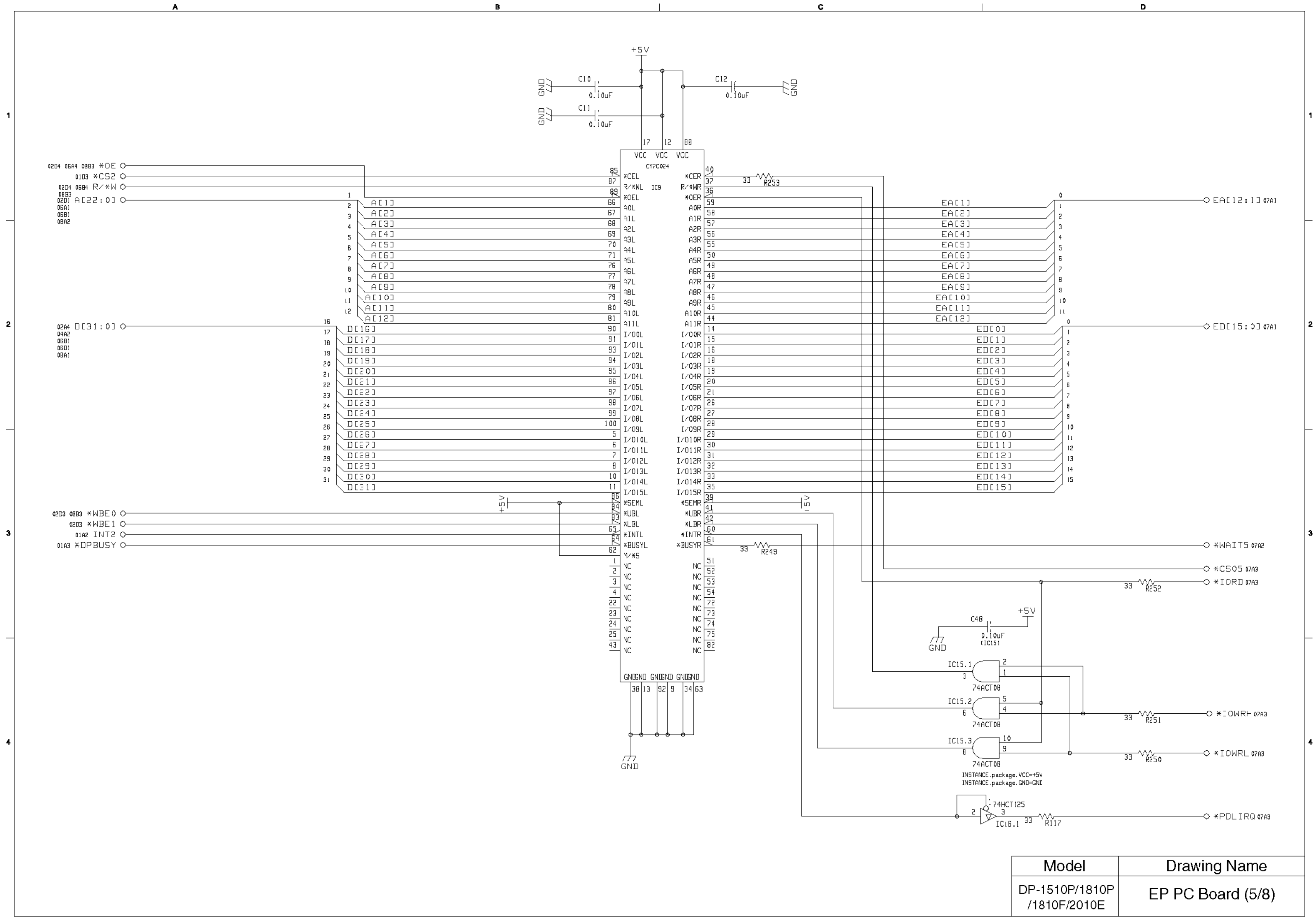
Model	Drawing Name
DP-1510P/1810P /1810F/2010E	EP PC Board (2/8)


LD[31:0]
LA[22:2]
DA[18],DA[17],DA[15],DA[12],LA[11:4],*DRAMOE,*DRAMWE,*CAS[3:0],*RAS[1:0],*16OE,*16WE,*16CAS[3:0],*16RAS[1:0]
*CAS[0]
*CAS[1]
*CAS[2]
*CAS[3]
*RAS[0]
*RAS[1]
*DRAMWE
*LDRAMOE
HM5165165ATT
IC10
IC11
IC12
IC13
+3.3V
GND
0.10uF
C17
C18
C58
C59
C60
C61
C62
C63
C64
C65
C66
C67
C68
C69
C70
C71
R184
R185
R186
R187
R188
R189
R190
R191
R193
R194
R195
R196
R197
R205
R206
64M
16M
*16WE
*16OE
*16RAS[0]
*16RAS[1]
*16CAS[0]
*16CAS[1]
*16CAS[2]
*16CAS[3]
A
B
C
D
1
2
3
4

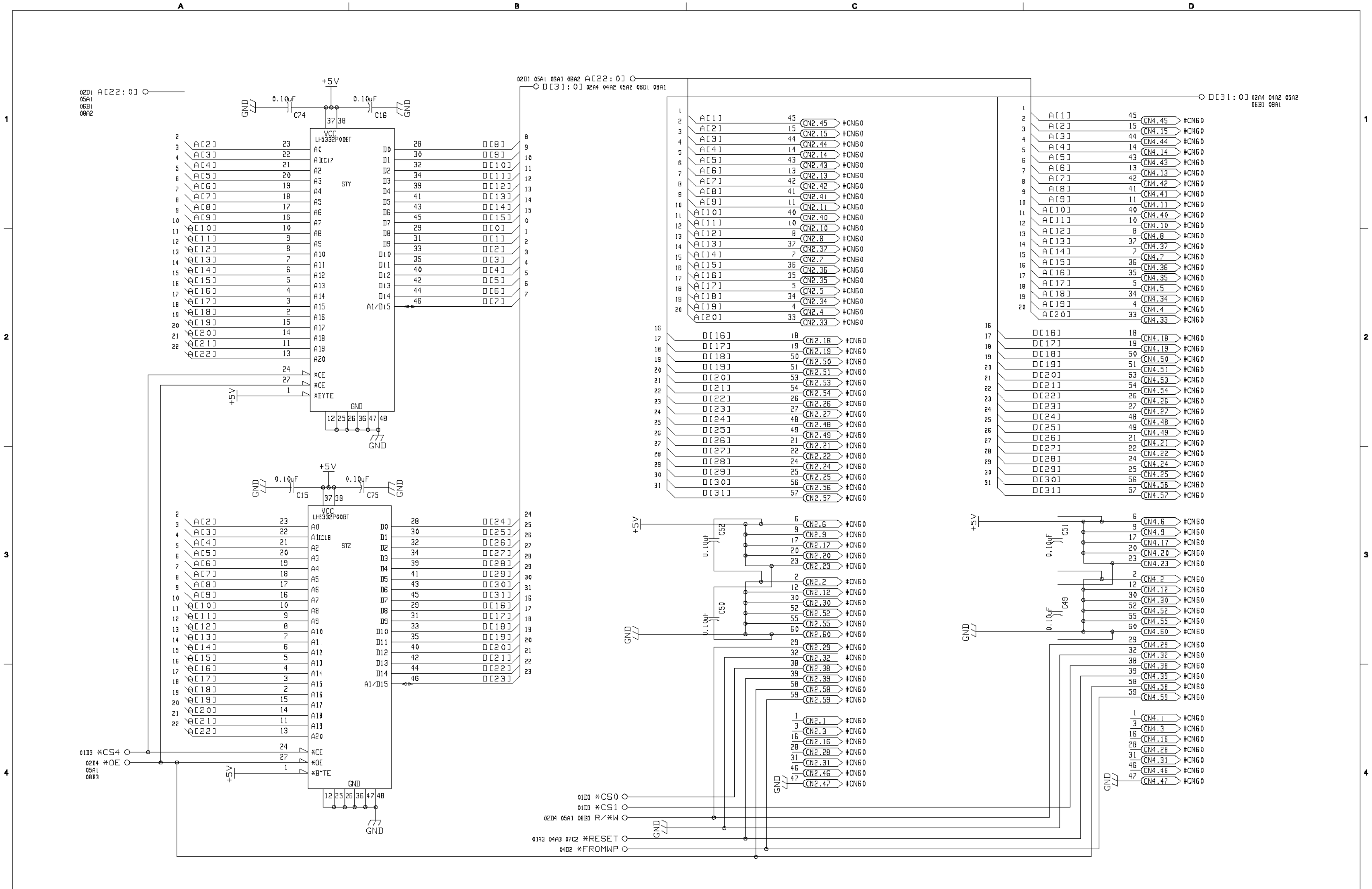
Model	Drawing Name
DP-1510P/1810P /1810F/2010E	EP PC Board (3/8)


A
B
C
D
1
2
3
4
01A3 TXD
01A3 RXD
01A3 *RTS
01A3 *CTS
+5V
10K
R11
10K
R12
GND
TP1
TP2
TP3
TP4
TP5
TP6
DSW1
CMP1272
KHS04C
R15
R16
R17
R18
10K
DSW1 08B3
DSW2 08A4
DSW3 08A4
DSW4 08B3
02A4 D[31:0]
05A2
06B1
06D1
08A1
D[24]
D[25]
D[26]
D[27]
D[28]
D[29]
D[30]
D[31]
C28
0.10uF
(IC1)
IC1
74ACT273
*CLR
INSTANCE.package.VCC=+5V
INSTANCE.package.GND=GND
08A3 *LEDWR
01A3 *RESET
06B4
07C2
1.0K
R182
C73
1000pF
*FROMWP 06B4
*VIFRES 08B3
LED1
LED2
LED3
LED4
SML-010
470
R6
R8
R9
R10
01A2 EXINT
08A3 *EXRD
08A3 *EXWR
10K
R13
CN5.1
CN5.2
CN5.3
CN5.4
CN5.5
CN5.6
CN5.7
CN5.8
CN5.9
CN5.10
CN5.11
CN5.12
CN5.13
CN5.14
#CN14
IC16.4
IC16.3
74HCT125
C26
0.10uF
(IC16)
BLM21A 121S
NF1
C25
0.10uF
OSC1
DS075150
VDD
OUT
CONT
GND
freq?
68
R7
SYSCLK 01A3 08A2
C76
100pF
NO ASM

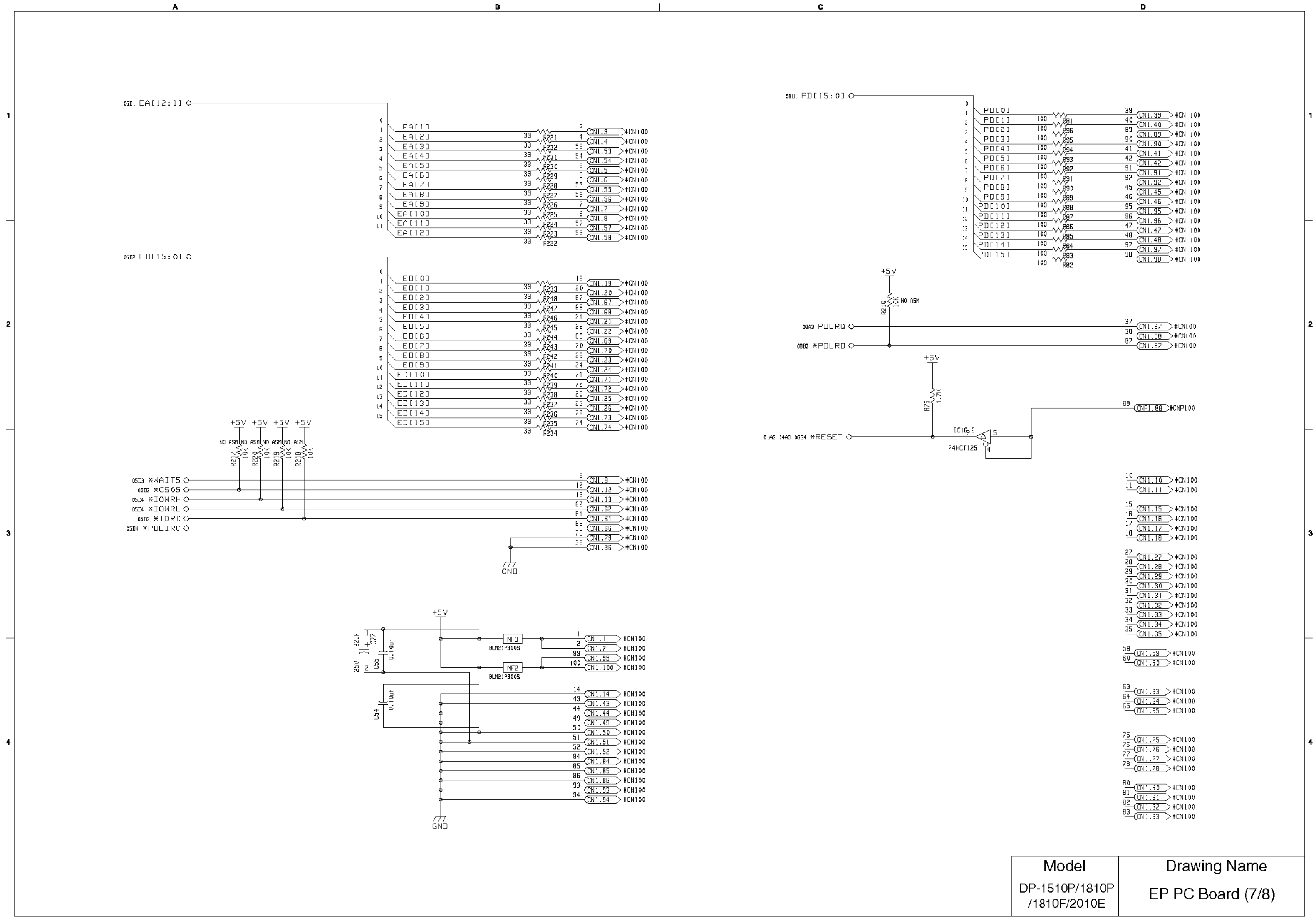
Model	Drawing Name
DP-1510P/1810P /1810F/2010E	EP PC Board (4/8)


A
B
C
D
1
2
3
4
+5V
C10
0.10uF
C11
0.10uF
C12
0.10uF
GND
CY7C024
IC9
VCC
*CEL
R/*WL
*OEL
*CER
R/*WR
*OER
*SEML
*UBL
*LBL
*INTL
*BUSYL
M/*S
*SEMR
*UBR
*LBR
*INTR
*BUSYR
NC
0204 06A4 08B3 *OE
0103 *CS2
0204 06B4 08B3 R/*W
0201 06A1 06B1 08A2 A[22:0]
A[1]
A[12]
0204 04A2 06B1 06D1 08A1 D[31:0]
D[16]
D[31]
0203 08B3 *WBE0
0203 *WBE1
01A2 INT2
01A3 *DPBUSY
EA[12:1] 07A1
EA[1]
EA[12]
ED[15:0] 07A1
ED[0]
ED[15]
33
R253
R249
R252
R251
R250
R117
*WAIT5 07A2
*CS05 07A3
*IORD 07A3
*IOWRH 07A3
*IOWRL 07A3
*PDLIRQ 07A3
C48
0.10uF
(IC15)
IC15.1
IC15.2
IC15.3
74ACT08
INSTANCE.package.VCC=+5V
INSTANCE.package.GND=GND
74HCT125
IC16.1

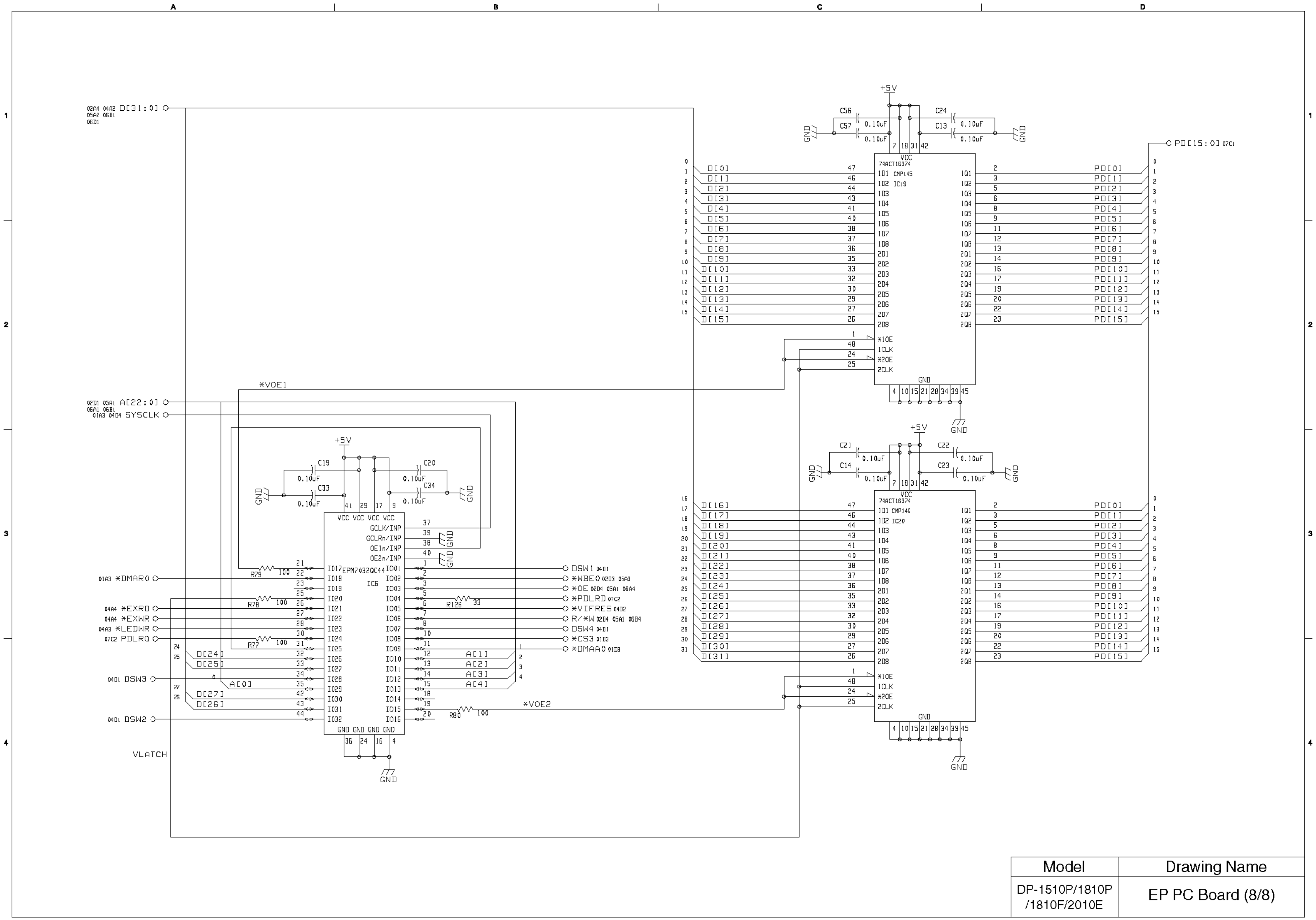
Model	Drawing Name
DP-1510P/1810P /1810F/2010E	EP PC Board (5/8)


A
B
C
D
1
2
3
4
02D1 05A1 05B1 08A2 A[22:0]
+5V
GND
0.10uF
C74
C16
VCC
LH5332P00ET
STY
A[2] … A[22]
D[8] … D[7]
*CE
*BYTE
0.10uF
C15
C75
LH5332P00B1
STZ
D[24] … D[23]
01D3 *CS4
02D4 05A1 08B3 *OE
02D1 05A1 08A2 A[22:0]
D[31:0] 02A4 04A2 05A2 06D1 08A1
D[31:0] 02A4 04A2 05A2 06B1 08A1
A[1] … A[20]
D[16] … D[31]
CN2.45 … CN2.47
CN4.45 … CN4.47
*CN60
C52
C50
C51
C49
01D3 *CS0
01D3 *CS1
02D4 05A1 08B3 R/*W
01I3 04A3 37C2 *RESET
04D2 *FROMWP

Model	Drawing Name
DP-1510P/1810P /1810F/2010E	EP PC Board (6/8)

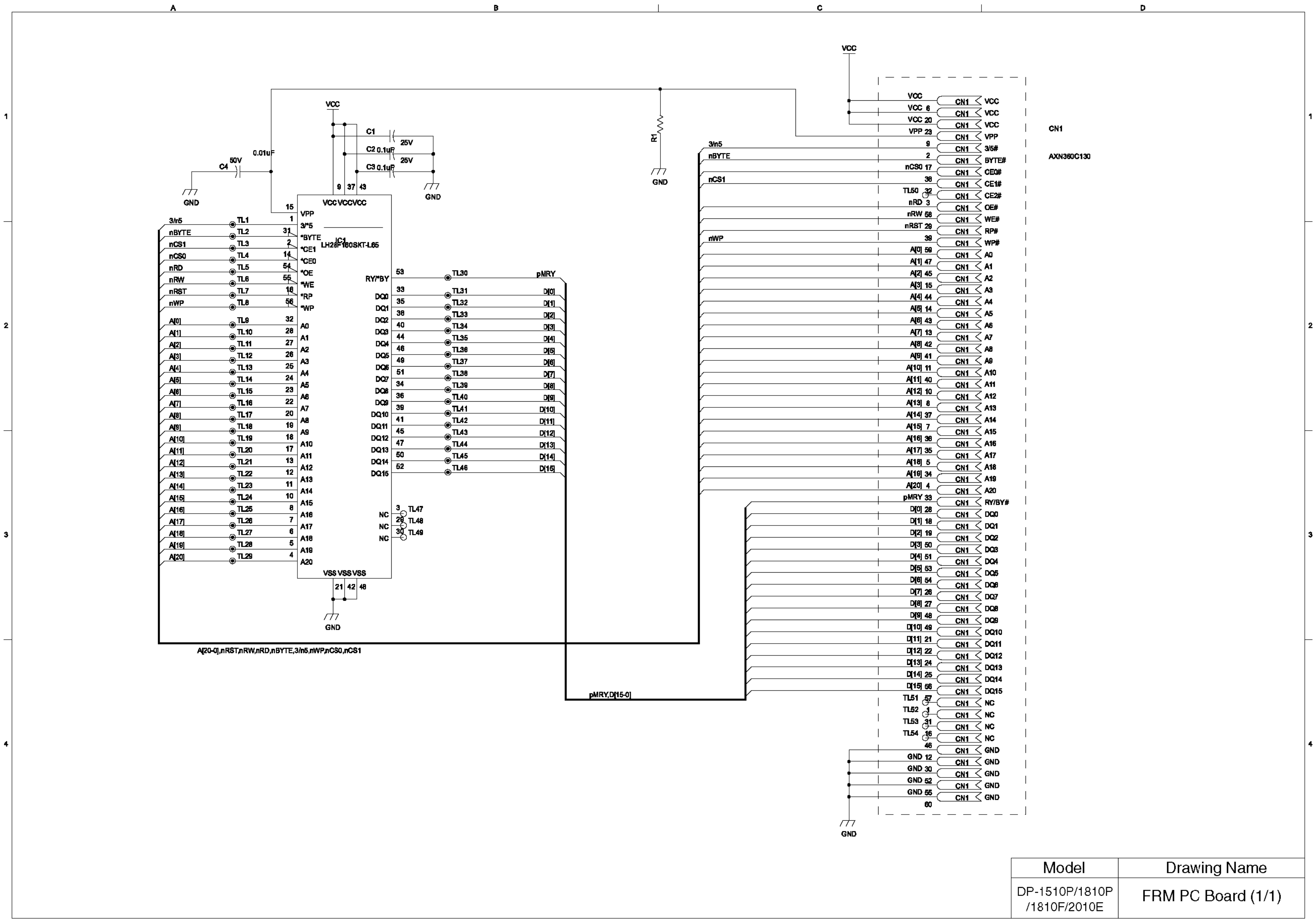

A
B
C
D
1
2
3
4
EA[12:1]
ED[15:0]
PD[15:0]
PDLRQ
*PDLRD
*RESET
*WAITS
*CS05
*IOWRH
*IOWRL
*IORD
*PDLIRQ
+5V
GND
NO ASM
10K
4.7K
R76
R216
R217
R220
R219
R218
IC16
74HCT125
CNP1.88
#CNP100
#CN100
NF3
NF2
BLM21P300S
C77
22uF
25V
C55
0.10uF
C54
0.10uF

Model	Drawing Name
DP-1510P/1810P /1810F/2010E	EP PC Board (7/8)


A
B
C
D
1
2
3
4
02A4 04A2 D[31:0]
05A2 06B1
06D1
02D1 05A1 A[22:0]
06A1 06B1
01A3 04D4 SYSCLK
01A3 *DMAR0
04A4 *EXRD
04A4 *EXWR
04A3 *LEDWR
07C2 PDLRQ
04D1 DSW3
04D1 DSW2
VLATCH
*VOE1
*VOE2
+5V
GND
C19
C33
C20
C34
0.10uF
R79
R78
R77
R80
100
R126
33
VCC VCC VCC VCC
GCLK/INP
GCLRn/INP
OE1n/INP
OE2n/INP
EPM7032QC44
IC6
IO17
IO18
IO19
IO20
IO21
IO22
IO23
IO24
IO25
IO26
IO27
IO28
IO29
IO30
IO31
IO32
IO01
IO02
IO03
IO04
IO05
IO06
IO07
IO08
IO09
IO10
IO11
IO12
IO13
IO14
IO15
IO16
GND GND GND GND
D[24]
D[25]
D[27]
D[26]
A[0]
A[1]
A[2]
A[3]
A[4]
DSW1 04D1
*WBE0 02D3 05A3
*OE 02D4 05A1 06A4
*PDLRD 07C2
*VIFRES 04D2
R/*W 02D4 05A1 06B4
DSW4 04D1
*CS3 01D3
*DMAA0 01D3
C56
C57
C24
C13
C21
C14
C22
C23
74ACT16374
CMP145
IC19
CMP146
IC20
VCC
GND
1D1
1D2
1D3
1D4
1D5
1D6
1D7
1D8
2D1
2D2
2D3
2D4
2D5
2D6
2D7
2D8
*1OE
1CLK
*2OE
2CLK
1Q1
1Q2
1Q3
1Q4
1Q5
1Q6
1Q7
1Q8
2Q1
2Q2
2Q3
2Q4
2Q5
2Q6
2Q7
2Q8
D[0]
D[1]
D[2]
D[3]
D[4]
D[5]
D[6]
D[7]
D[8]
D[9]
D[10]
D[11]
D[12]
D[13]
D[14]
D[15]
D[16]
D[17]
D[18]
D[19]
D[20]
D[21]
D[22]
D[23]
D[24]
D[25]
D[26]
D[27]
D[28]
D[29]
D[30]
D[31]
PD[0]
PD[1]
PD[2]
PD[3]
PD[4]
PD[5]
PD[6]
PD[7]
PD[8]
PD[9]
PD[10]
PD[11]
PD[12]
PD[13]
PD[14]
PD[15]
PD[15:0] 07C1

Model	Drawing Name
DP-1510P/1810P /1810F/2010E	EP PC Board (8/8)

9.19. FRM PC Board


A
B
C
D
1
2
3
4
VCC
GND
C1
C2 0.1uF 25V
C3 0.1uF 25V
C4 50V 0.01uF
R1
IC1
LH28F160SKT-L65
VCC VCC VCC
VPP
3/*5
*BYTE
*CE1
*CE0
*OE
*WE
*RP
*WP
RY/*BY
DQ0–DQ15
A0–A20
NC
VSS VSS VSS
TL1–TL54
3/n5
nBYTE
nCS1
nCS0
nRD
nRW
nRST
nWP
pMRY
A[0]–A[20]
D[0]–D[15]
A[20-0],nRST,nRW,nRD,nBYTE,3/n5,nWP,nCS0,nCS1
pMRY,D[15-0]
CN1
AXN360C130
CE0#
CE1#
CE2#
OE#
WE#
RP#
WP#
BYTE#
3/5#
RY/BY#

Model	Drawing Name
DP-1510P/1810P /1810F/2010E	FRM PC Board (1/1)

memo